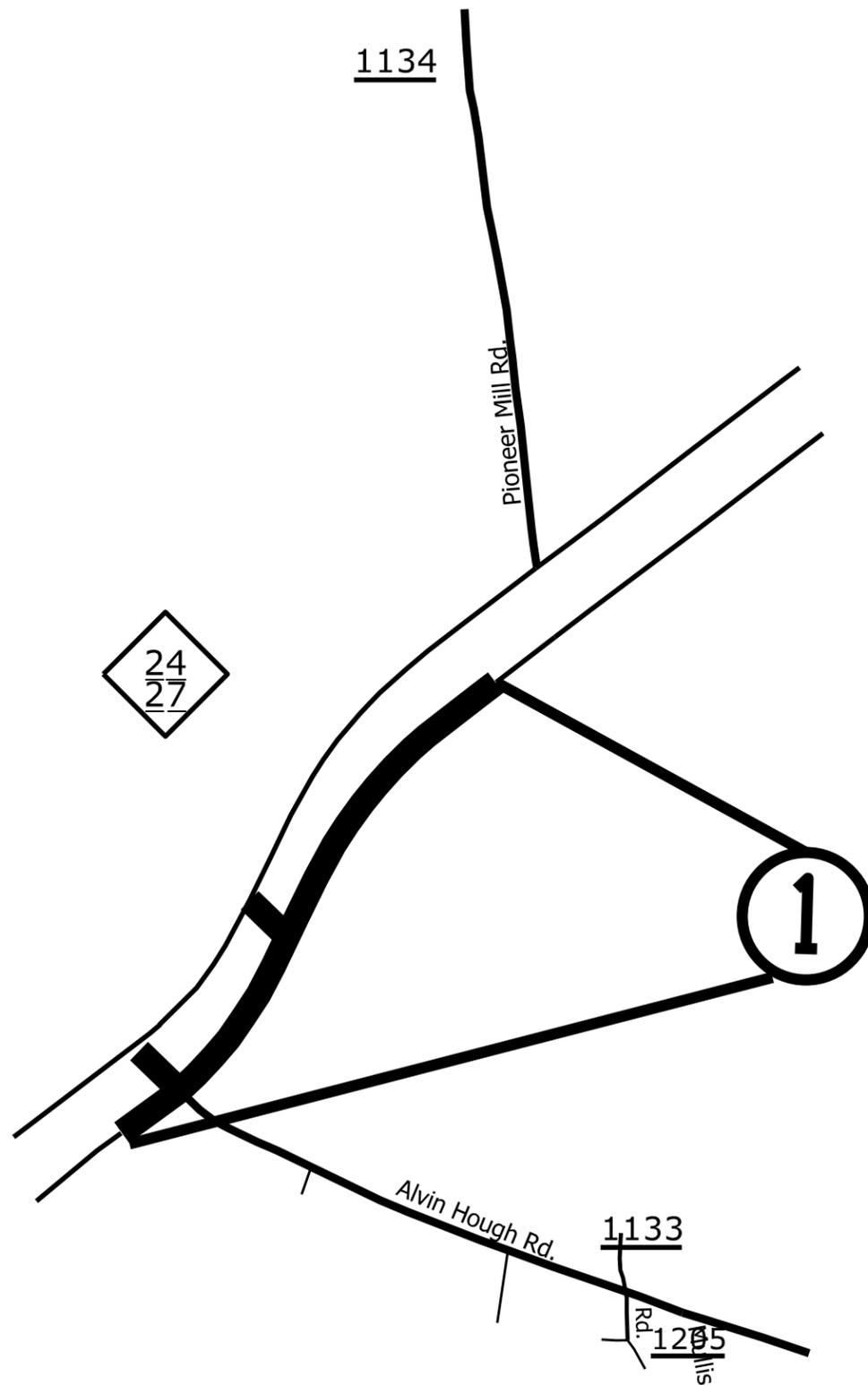


STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS
N.C.	2026CPT.10.04.10131 2026CPT.10.04.20131	1	27
F.A. PROJECT NO.			

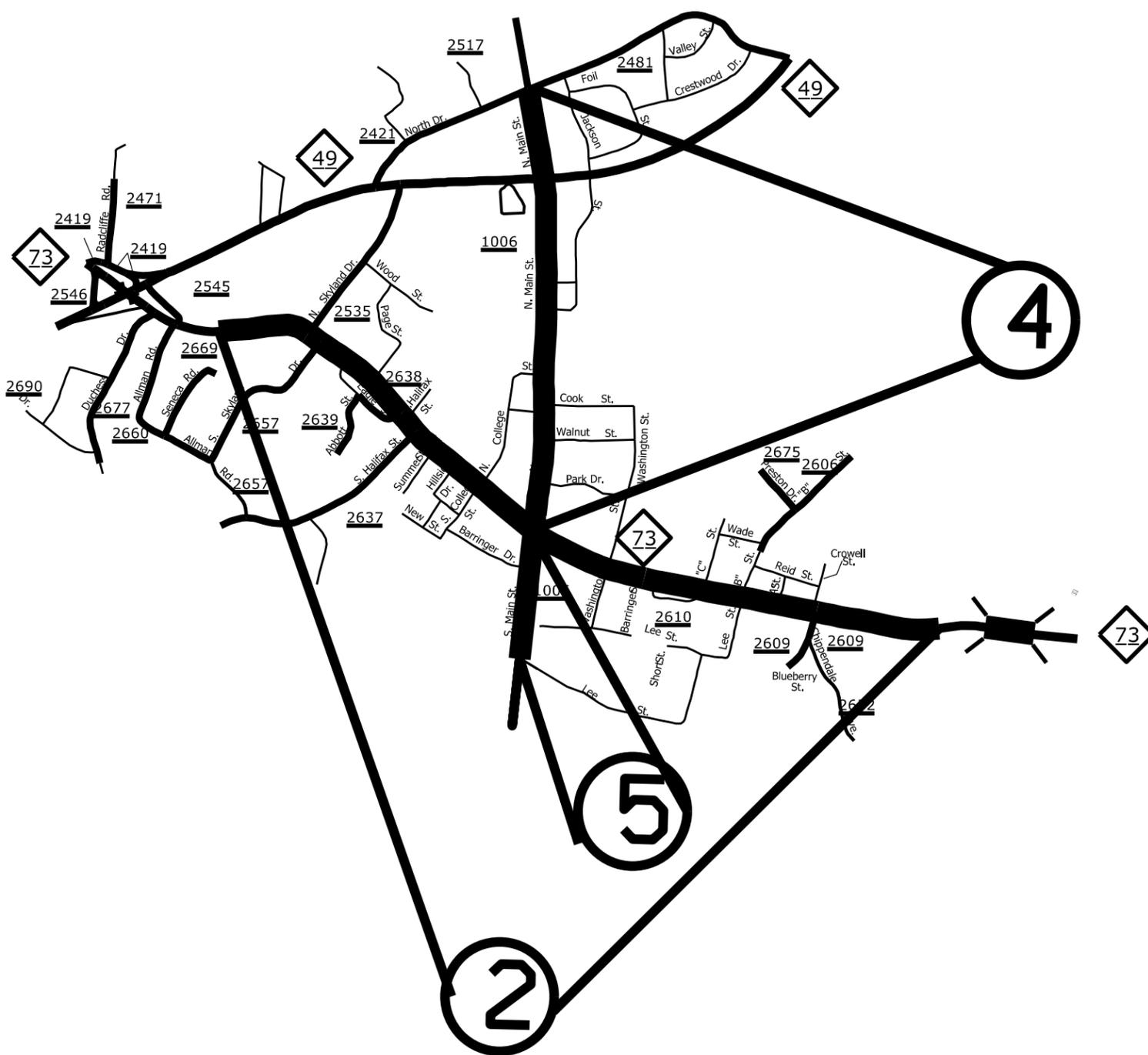
ENLARGED MUNICIPAL AND SUBURBAN AREAS
CABARRUS COUNTY
 NORTH CAROLINA
PREPARED BY: DHE
 NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
 DIVISION OF HIGHWAYS - DIVISION 10 DISTRICT 1



MAP #1 - NC 24/27 E
 0.50 MILES
 FROM MECKLENBURG COUNTY LINE (MP 0.00)
 TO JOINT BEFORE SR 1134 PIONEER MILL ROAD (MP 0.50)

STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS
N.C.	2026CPT.10.04.10131 2026CPT.10.04.20131	2	27
F.A. PROJECT NO.			

ENLARGED MUNICIPAL AND SUBURBAN AREAS
CABARRUS COUNTY
 NORTH CAROLINA
PREPARED BY THE
 NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
 DIVISION OF HIGHWAYS - DIVISION 10 DISTRICT 1



MAP #2 - NC 73
 1.77 MILES
 800 FEET NORTH OF S. SKYLAND DRIVE (MP 19.38)
 TO THE JOINT BEFORE THE BRIDGE (MP 21.15)

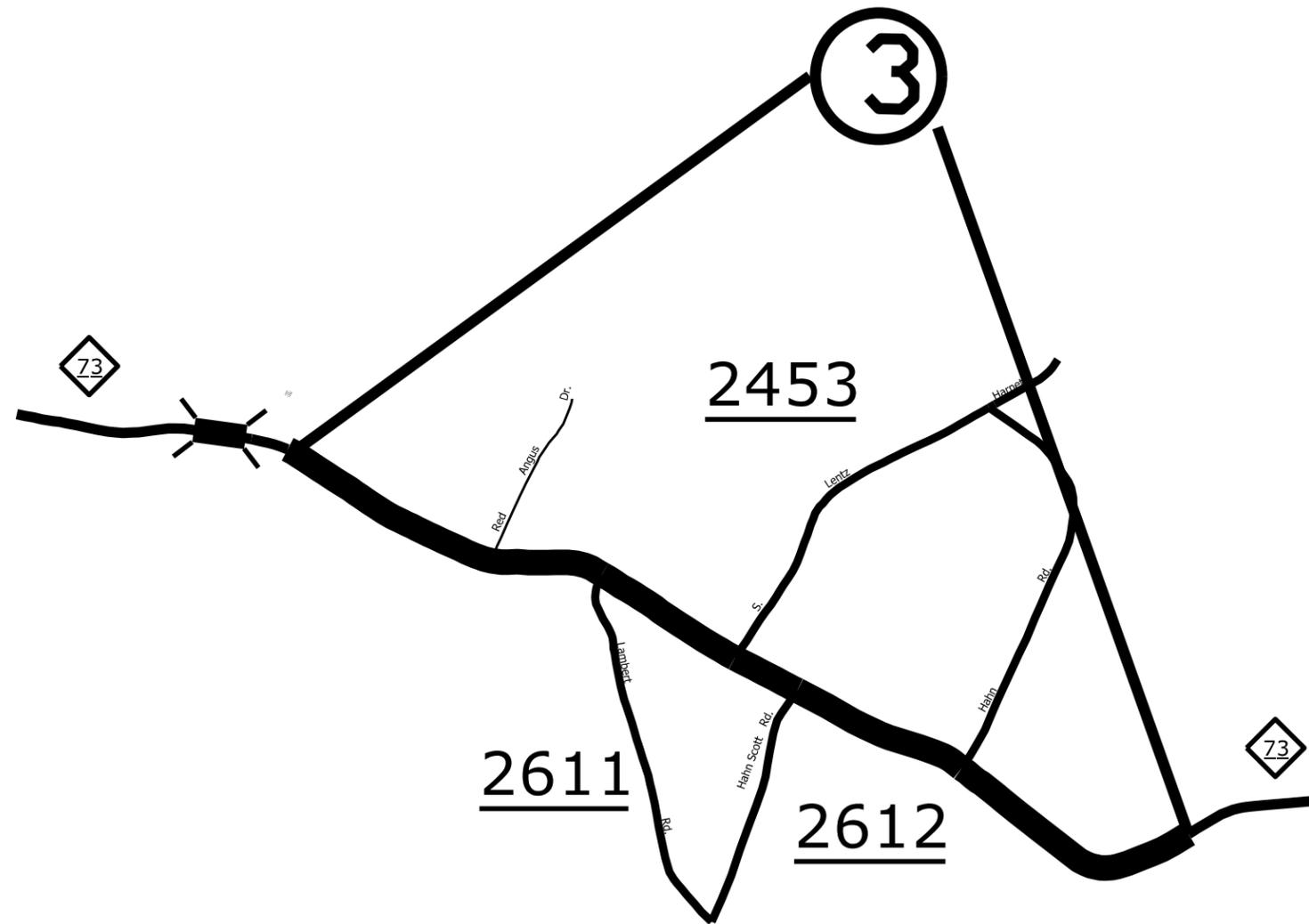
MAP #4 - SR 1006 N. MAIN STREET
 1.01 MILES
 FROM SR 2421 NORTH DRIVE (MP 6.57) TO (MP 6.77),
 THEN FROM (MP 6.78) TO NC 73 (MP 7.59)

MAP #5 - SR 1006 S. MAIN STREET
 0.24 MILES
 FROM NC73 (MP 7.59)
 TO LEE STREET (MP 7.83)

STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS
N.C.	2026CPT.10.04.10131 2026CPT.10.04.20131	3	27
F.A. PROJECT NO.			

ENLARGED MUNICIPAL AND SUBURBAN AREAS
CABARRUS COUNTY
 NORTH CAROLINA

PREPARED BY: EHE
 NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
 DIVISION OF HIGHWAYS - DIVISION 10 DISTRICT 1

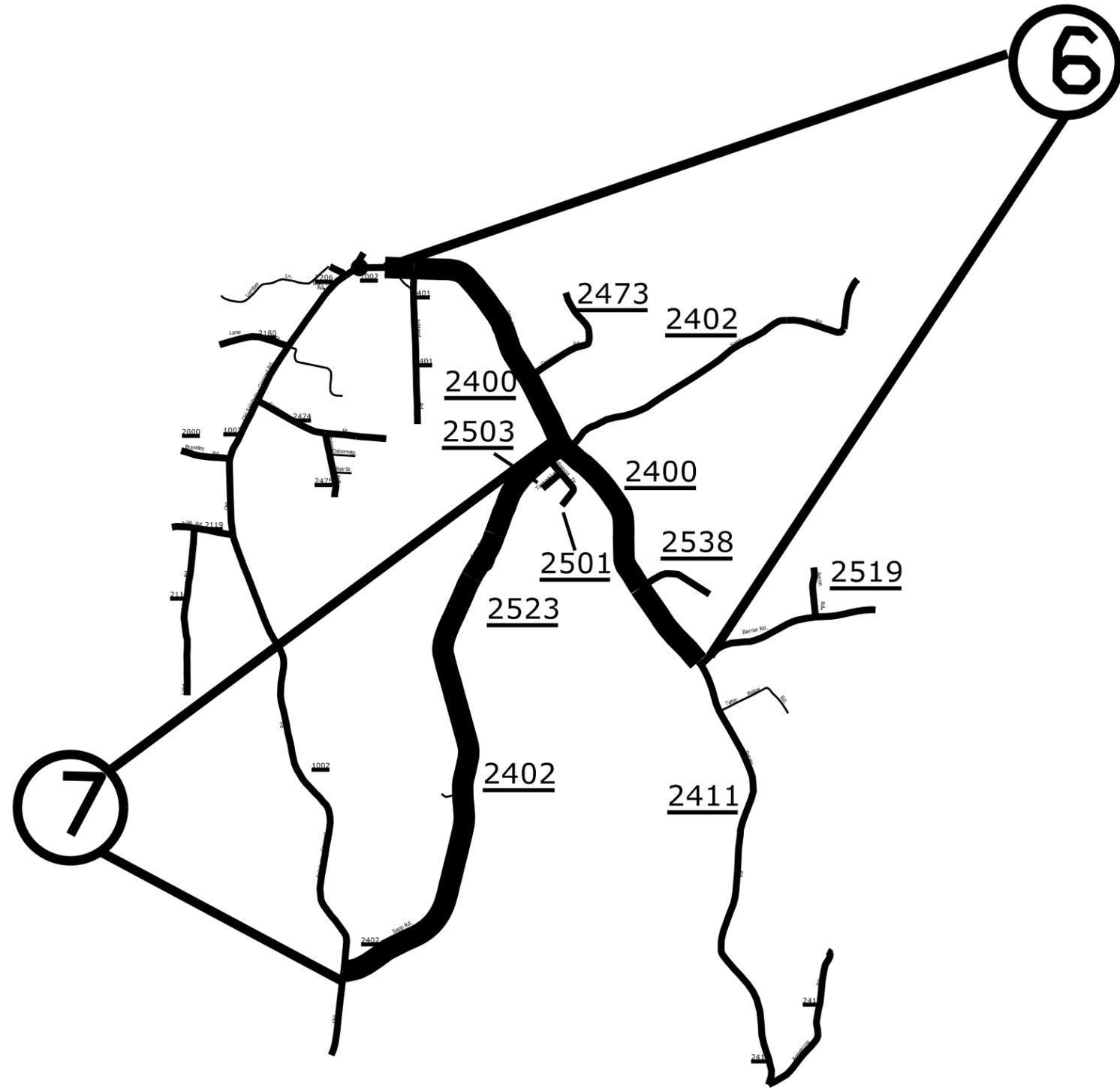


MAP #3 - NC 73
 2.47 MILES
 FROM JOINT AFTER SR 2604 DUTCH ROAD (MP 21.53)
 TO THE STANLY COUNTY LINE (MP 24.00)

STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS
N.C.	2026CPT.10.04.10131 2026CPT.10.04.20131	4	27
F.A. PROJECT NO.			

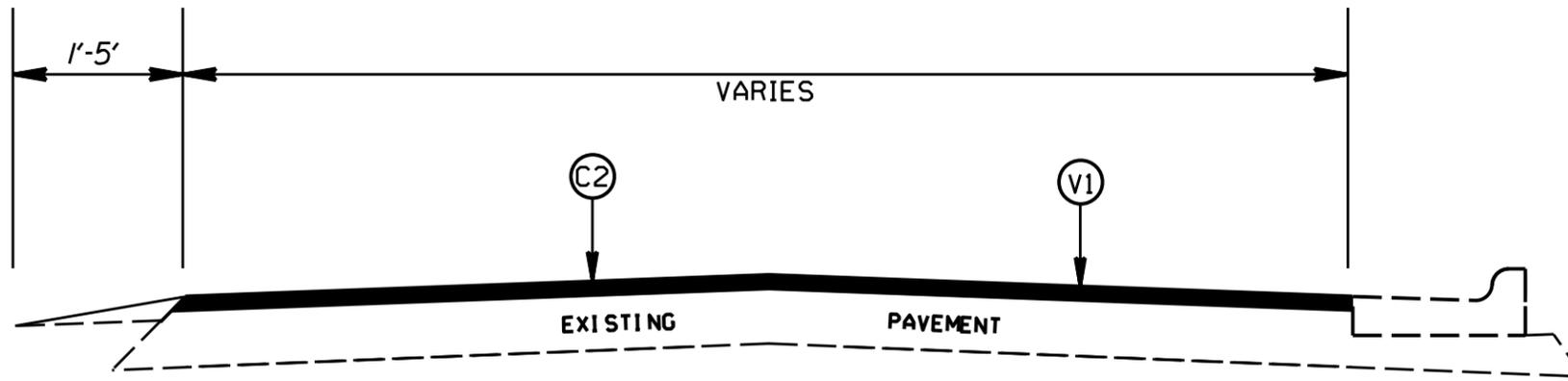
ENLARGED MUNICIPAL AND SUBURBAN AREAS
CABARRUS COUNTY
 NORTH CAROLINA

PREPARED BY THE
 NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
 DIVISION OF HIGHWAYS - DIVISION 10 DISTRICT 1

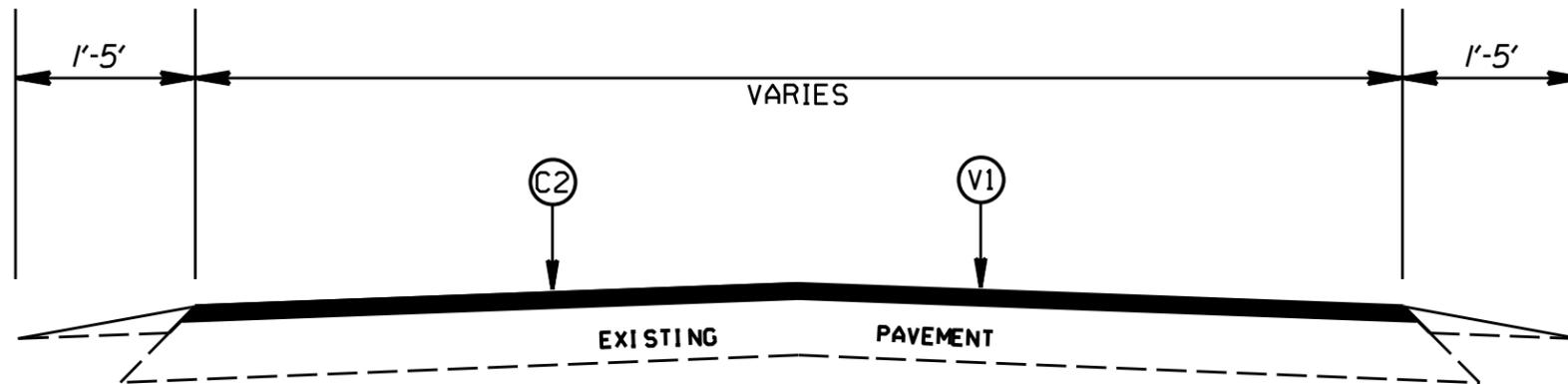


MAP #6 - SR 2400 IRISH POTATO ROAD
 2.54 MILES
 FROM JOINT NEAR RAB (MP 0.10)
 TO SR 2400 BARRIER ROAD (MP 2.64)

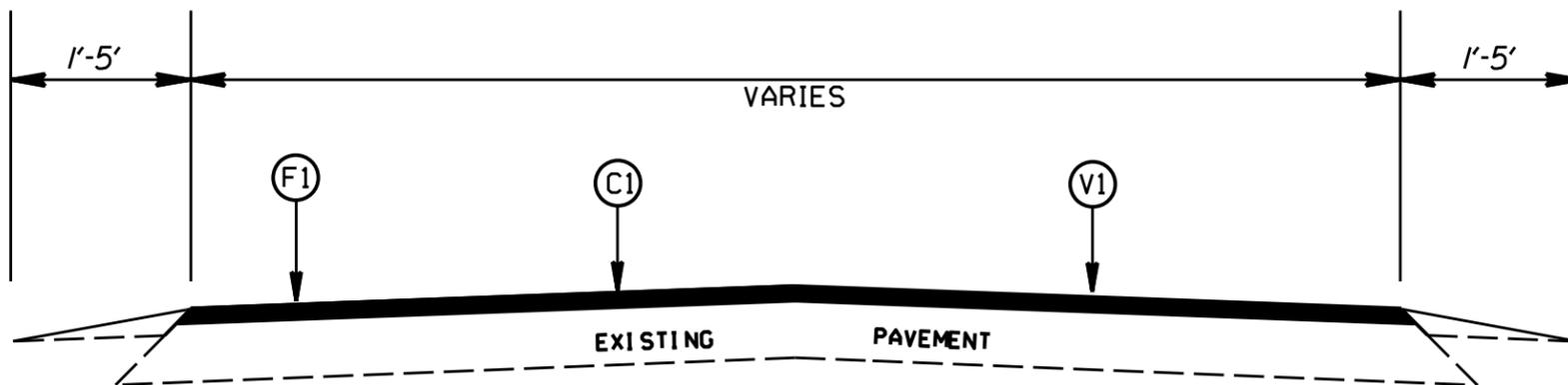
MAP #7 - SR 2402 SAPP ROAD
 2.91 MILES
 FROM SR 2400 IRISH POTATO ROAD (MP 1.73)
 TO SR 1002 OLD SALISBURY-CONCORD ROAD (MP 4.64)



TYPICAL SECTION NO. 1
 MAP 1 - NC 24/27 - STA. 10+00 TO 21+18



TYPICAL SECTION NO. 2
 MAP 1 - NC 24/27 - STA. 21+18 TO 36+48



TYPICAL SECTION NO. 3
 MAP 2 - NC 73 - STA. 10+00 TO 20+18,
 STA. 23+23 TO 33+52 AND 90+73 TO 103+23

STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS
N.C.	2026CPT.10.04.10131 2026CPT.10.04.20131	5	27
F.A. PROJECT NO.			

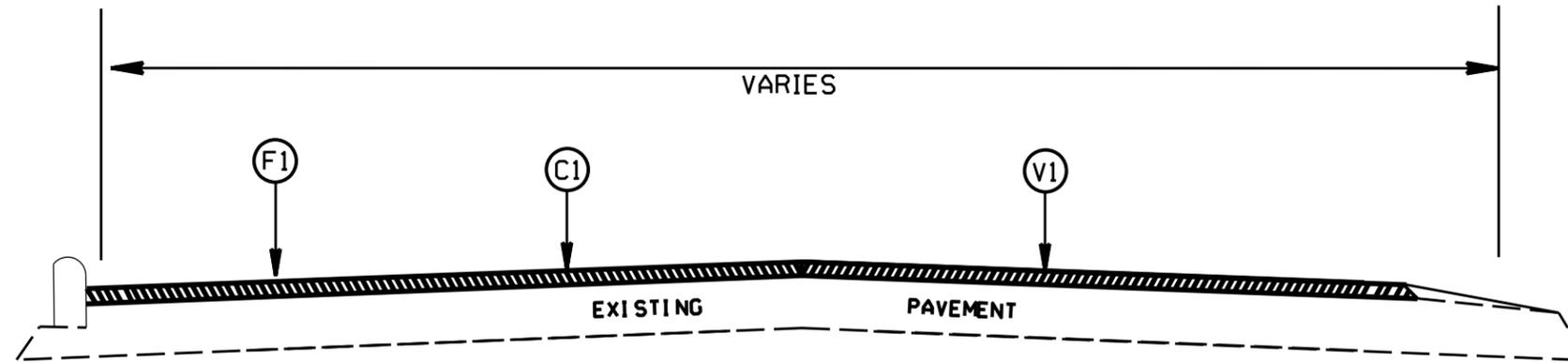
PAVEMENT SCHEDULE	
C1	PROP. APPROX. 1.50" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5C, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YDS.
C2	PROP. APPROX. 2.00" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5C, AT AN AVG. RATE OF 224 LBS. PER SQ. YDS.
C3	PROP. APPROX. 1.50" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YDS.
F1	ASPHALT SURFACE TREATMENT, MAT COAT, 78M STONE
T1	SHOULDER RECONSTRUCTION
V1	MILLING OF EXISTING PAVEMENT, 2.0"
V2	PROFILE MILLING 0" TO 1.5"

NOTES:

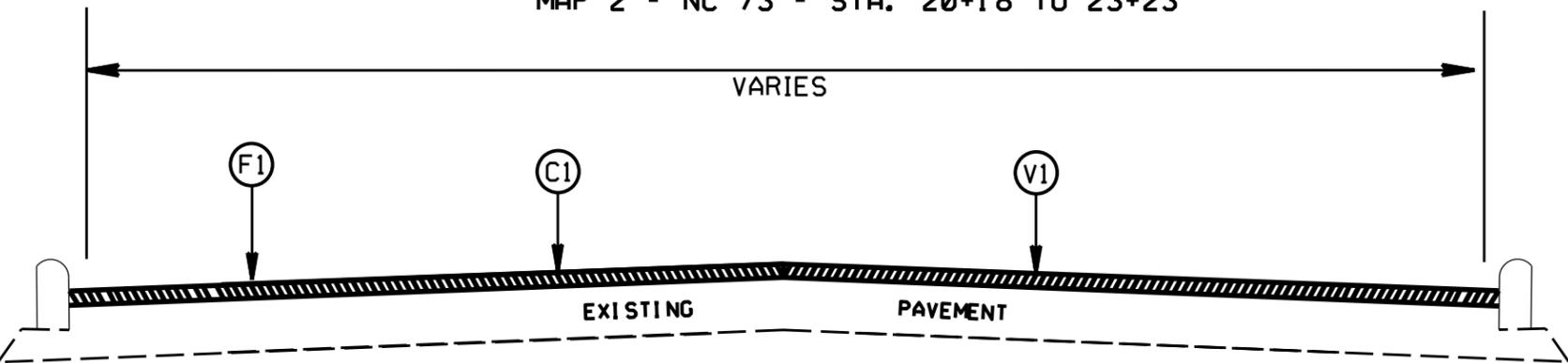
1. LEVELING COURSE TO BE PLACED AS DIRECTED BY THE ENGINEER

CABARRUS COUNTY RESURFACING 2026			REVISIONS	
SCALE	-NA-			
DATE	09/25			
DWG. BY	RBS			
DESIGN BY	RBS			
APPROVED				

STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS
N.C.	2026CPT.10.04.10131 2026CPT.10.04.20131	6	27
F.A. PROJECT NO.			

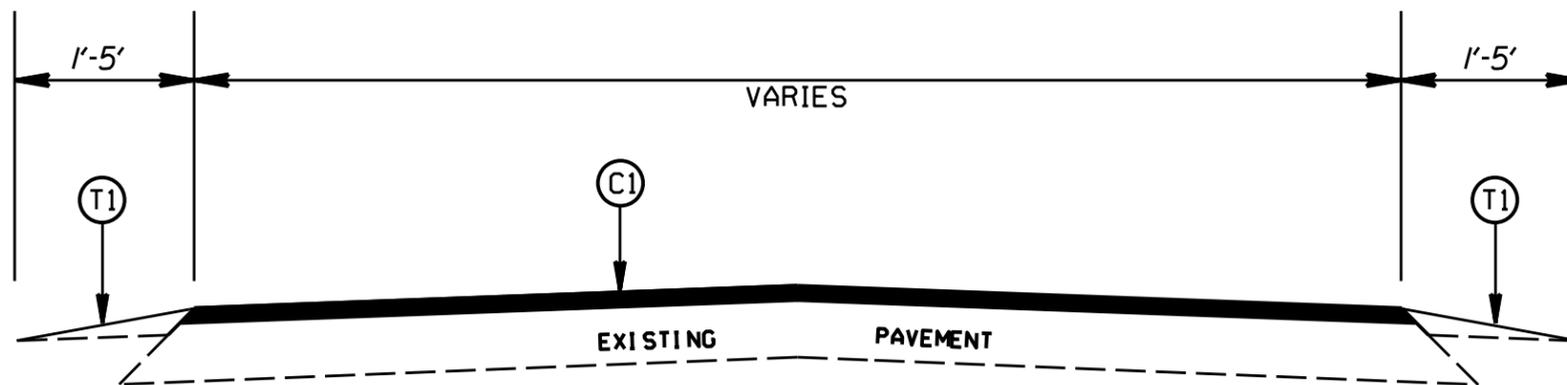


TYPICAL SECTION NO. 4
MAP 2 - NC 73 - STA. 20+18 TO 23+23



TYPICAL SECTION NO. 5
MAP 2 - NC 73 - STA. 33+52 TO 90+73
MAP 4 - SR 1006 N. MAIN STREET
MAP 5 - SR 1006 S. MAIN STREET

PAVEMENT SCHEDULE	
C1	PROP. APPROX. 1.50" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5C, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YDS.
C2	PROP. APPROX. 2.00" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5C, AT AN AVG. RATE OF 224 LBS. PER SQ. YDS.
C3	PROP. APPROX. 1.50" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YDS.
F1	ASPHALT SURFACE TREATMENT, MAT COAT, 78M STONE
T1	SHOULDER RECONSTRUCTION
V1	MILLING OF EXISTING PAVEMENT, 2.0"
V2	PROFILE MILLING 0" TO 1.5"

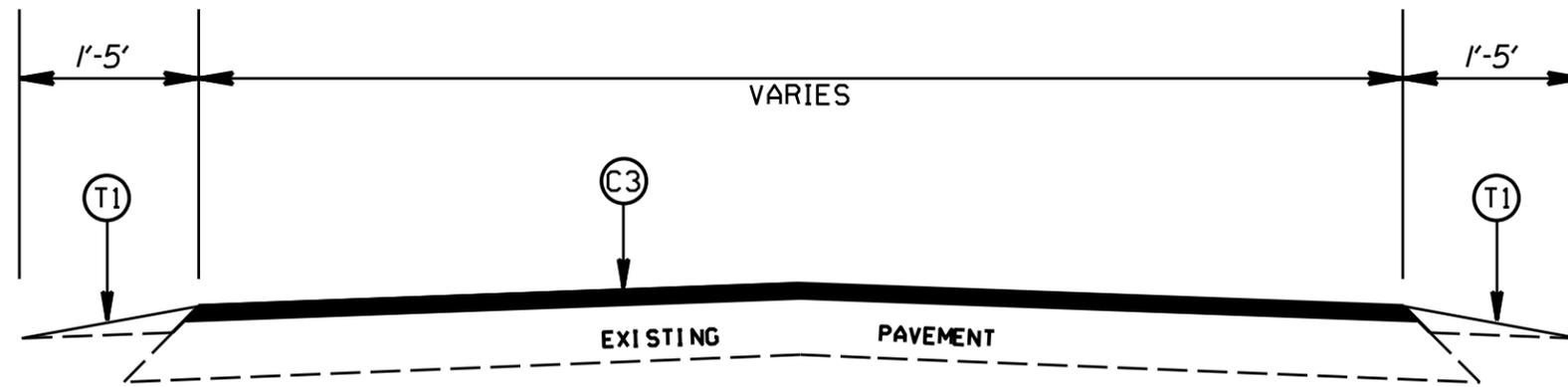


TYPICAL SECTION NO. 6
MAP 3 - NC 73

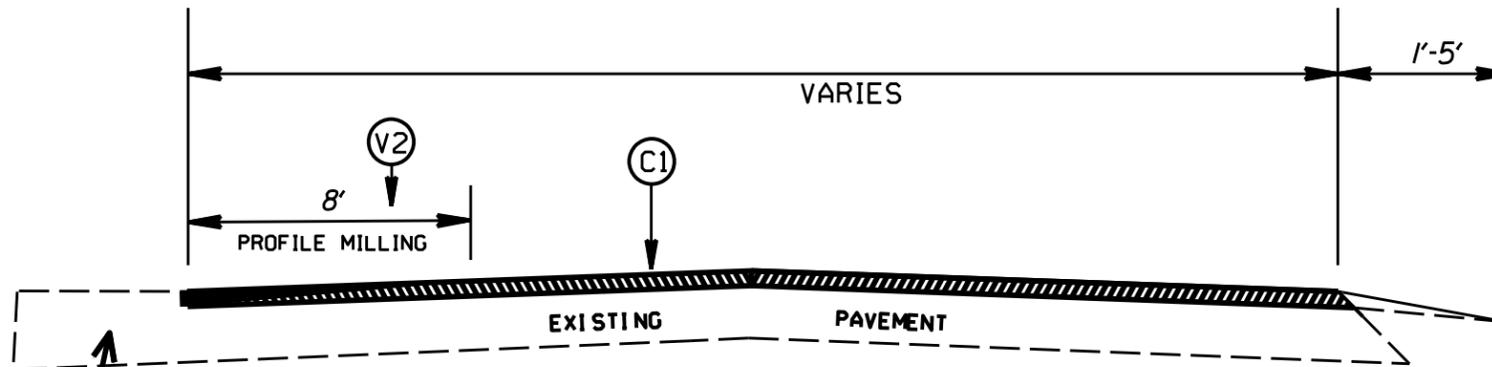
NOTES:

1. LEVELING COURSE TO BE PLACED AS DIRECTED BY THE ENGINEER

CABARRUS COUNTY RESURFACING 2026			
SCALE	-1/4"		REVISIONS
DATE	9/25		
DWG. BY	RBS		
DESIGN BY	RBS		
APPROVED			

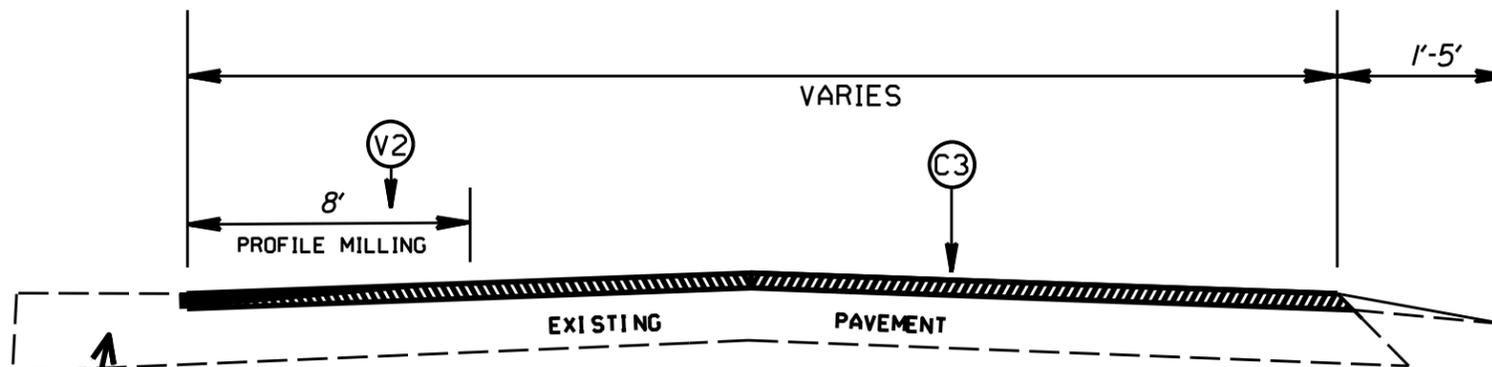


TYPICAL SECTION NO. 7
 MAP 6 - SR 2400 IRISH POTATO ROAD
 MAP 7 - SR 2402 SAPP ROAD



TYPICAL SECTION NO. 8
 MAP 3 - NC 73

DRIVEWAYS AS NEEDED ON LEFT OR RIGHT
 AS DIRECTED BY THE ENGINEER



TYPICAL SECTION NO. 9

MAP 6 - SR 2400 IRISH POTATO ROAD
 MAP 7 - SR 2402 SAPP ROAD

DRIVEWAYS AS NEEDED ON LEFT OR RIGHT
 AS DIRECTED BY THE ENGINEER

STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS
N.C.	2026CPT.10.04.10131 2026CPT.10.04.20131	7	27
F.A. PROJECT NO.			

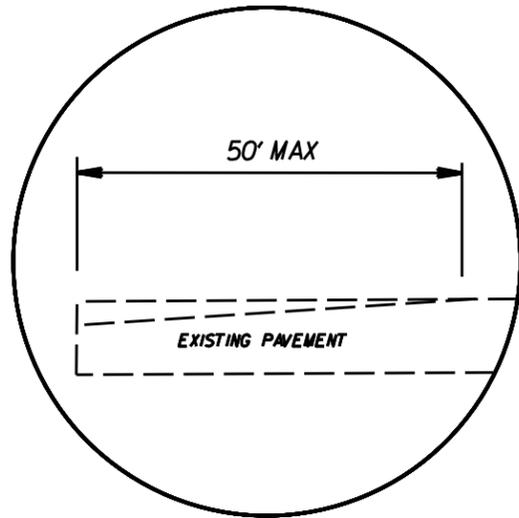
PAVEMENT SCHEDULE	
C1	PROP. APPROX. 1.50" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5C, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YDS.
C2	PROP. APPROX. 2.00" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5C, AT AN AVG. RATE OF 224 LBS. PER SQ. YDS.
C3	PROP. APPROX. 1.50" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YDS.
F1	ASPHALT SURFACE TREATMENT, MAT COAT, 78M STONE
T1	SHOULDER RECONSTRUCTION
V1	MILLING OF EXISTING PAVEMENT, 2.0"
V2	PROFILE MILLING 0" TO 1.5"

NOTES:

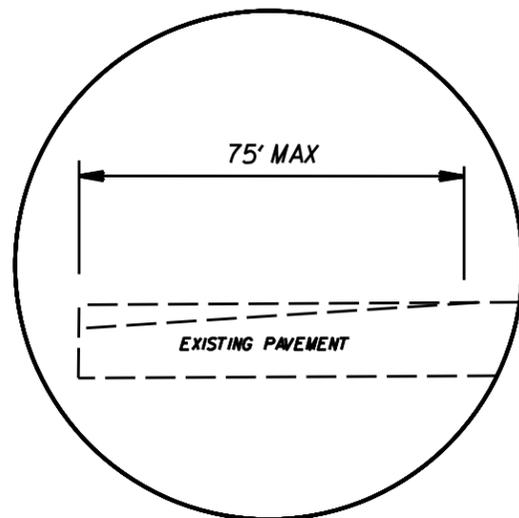
1. LEVELING COURSE TO BE PLACED AS DIRECTED BY THE ENGINEER

CABARRUS COUNTY RESURFACING 2026		
SCALE	-1A-	
DATE	09/25	
DWG. BY	RBS	
DESIGN BY	RBS	
APPROVED		
		REVISIONS

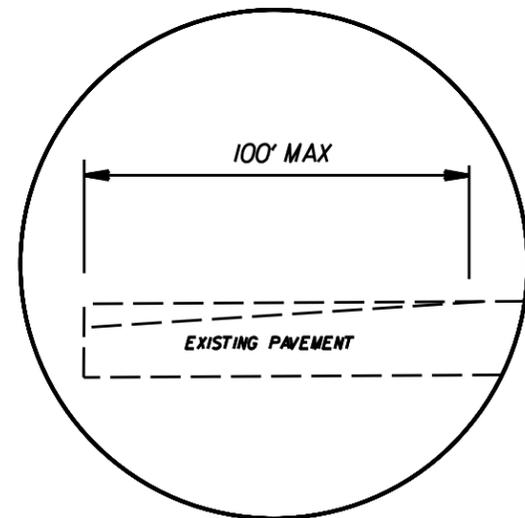
STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS
N.C.	2026CPT.10.04.10131 2026CPT.10.04.20131	9	27
F.A. PROJECT NO.			



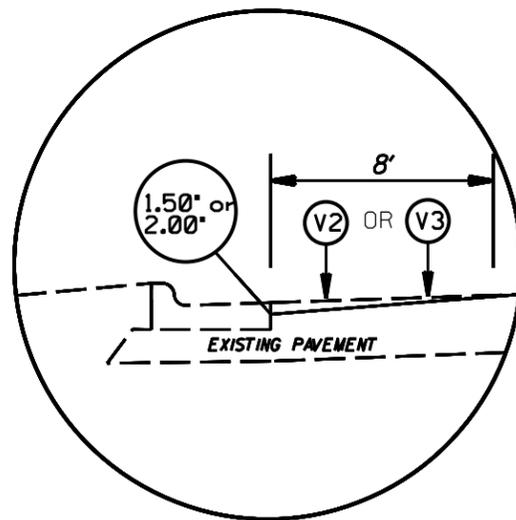
DETAIL FOR INCIDENTAL MILLING (0" TO 1.0")
TIE-IN



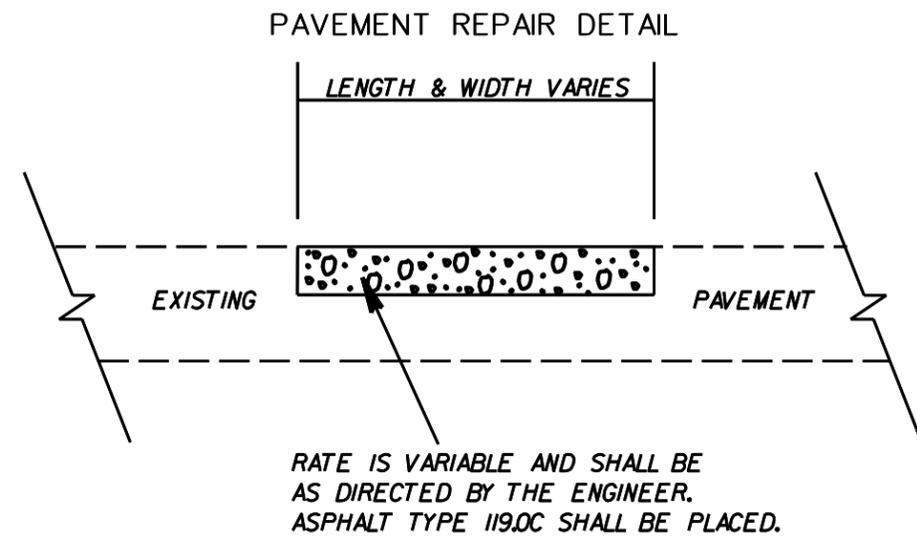
DETAIL FOR INCIDENTAL MILLING (0" TO 1.5")
TIE-IN



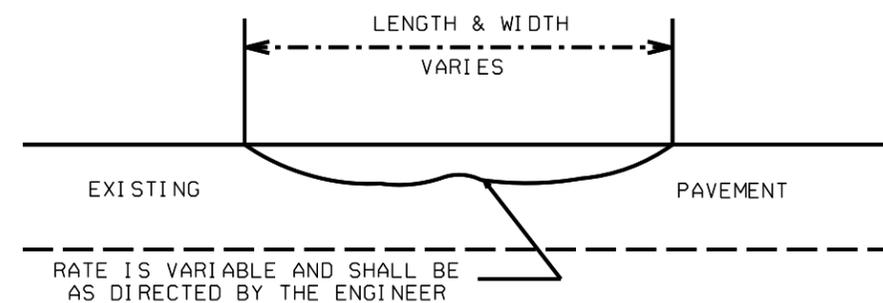
DETAIL FOR INCIDENTAL MILLING (0" TO 2.0")
TIE-IN



DETAIL FOR PROFILE MILLING (0" TO 1.50") OR (0" TO 2")



TYPE S9.5B OR S9.5C (LEVELING COURSE)



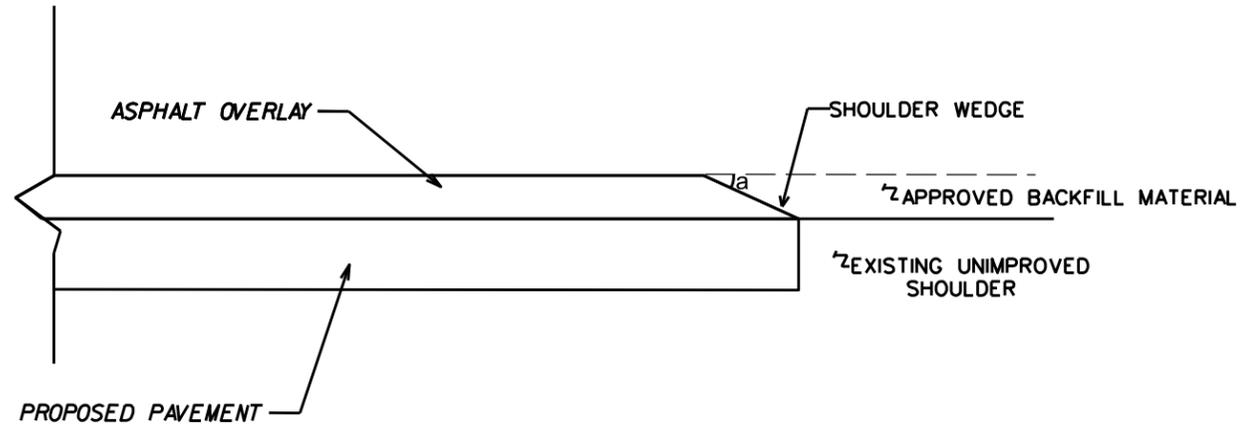
PATCHING, LEVELING, MILLING,
PROFILE MILLING DETAILS

SCALE	-NA-		REVISIONS
DATE	09/25		
DWG. BY	RBS		
DESIGN BY	RBS		
APPROVED			

NOTES:

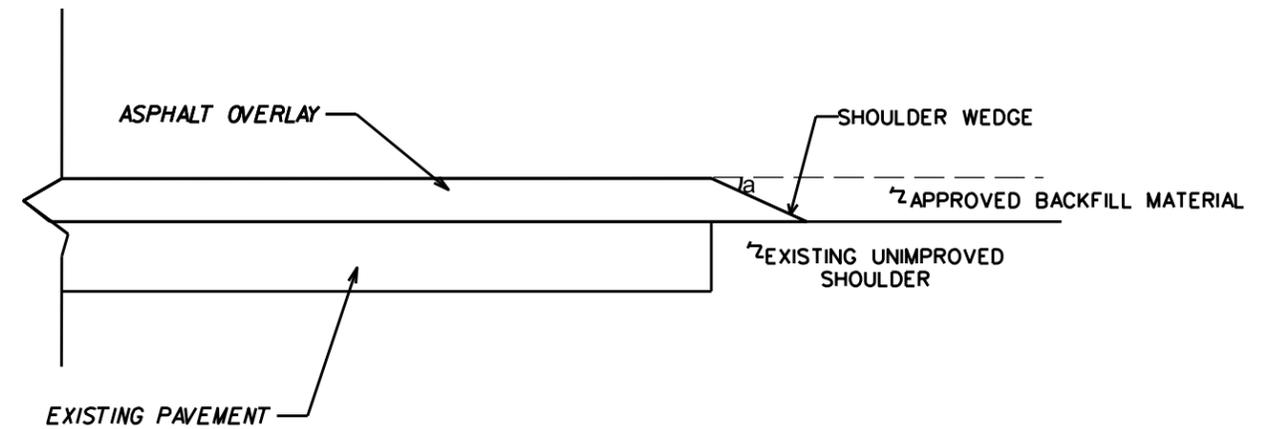
- 1) DETAIL DOES NOT APPLY TO OGAFCC AND ULTRA-THIN BONDED WEARING COURSE.
- 2) BACKFILL SHOULDER WITH APPROVED MATERIAL.
- 3) THE SHOULDER WEDGE DEVICE MAY BE DISENGAGED AT PAVED DRIVEWAYS AND SIDE STREETS.

STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS
N.C.	2026CPT.10.04.10131 2026CPT.10.04.20131	10	27
F.A. PROJECT NO.			



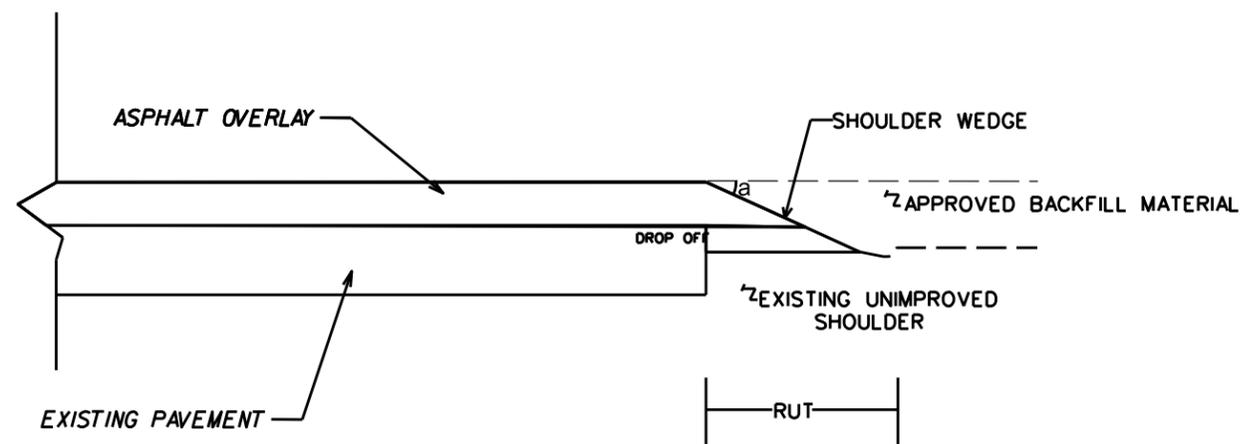
SHOULDER WEDGE DETAIL

(RESURFACING PROJECTS W/ WIDENING OR WITH EXISTING PAVED SHOULDER HAVING NO DROPOFFS)



SHOULDER WEDGE DETAIL

(RESURFACING PROJECTS W/ NO WIDENING)



SHOULDER WEDGE DETAIL
(RESURFACING ADJACENT TO RUTTED SHOULDER)

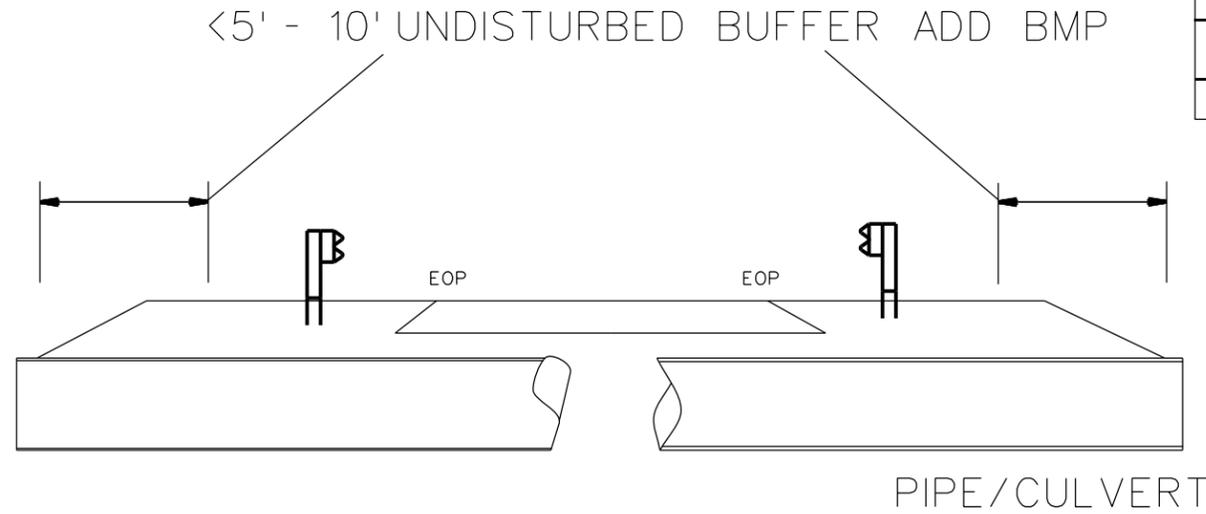
a = 30 DEGREES

SHOULDER WEDGE DETAILS		
SCALE	NA	
DATE	09/25	
DWG. BY	RBS	
DESIGN BY	RBS	
APPROVED		
		REVISIONS

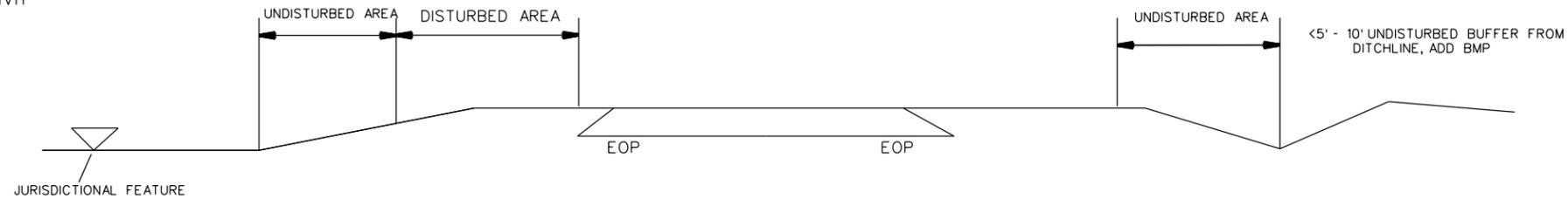
NOTES: LESS THAN 5' - 10' UNDISTURBED BUFFER FROM ROW, DITCHLINE, WATER FEATURE, OR DRAINAGE INLET, ADD BMP.

BMP OPTIONS: WATTLE OR SILT FENCE

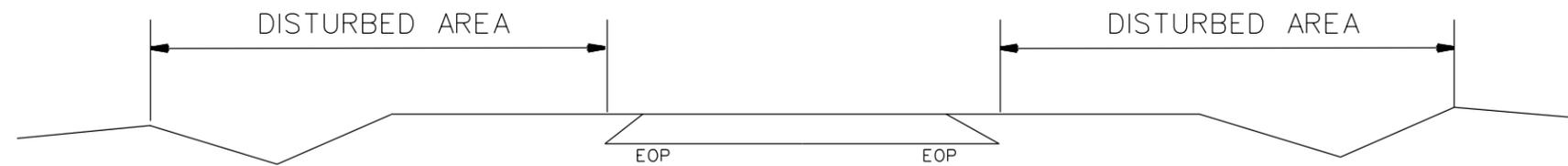
STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS
N.C.	2026CPT.10.04.10131 2026CPT.10.04.20131	11	27
F.A. PROJECT NO.			



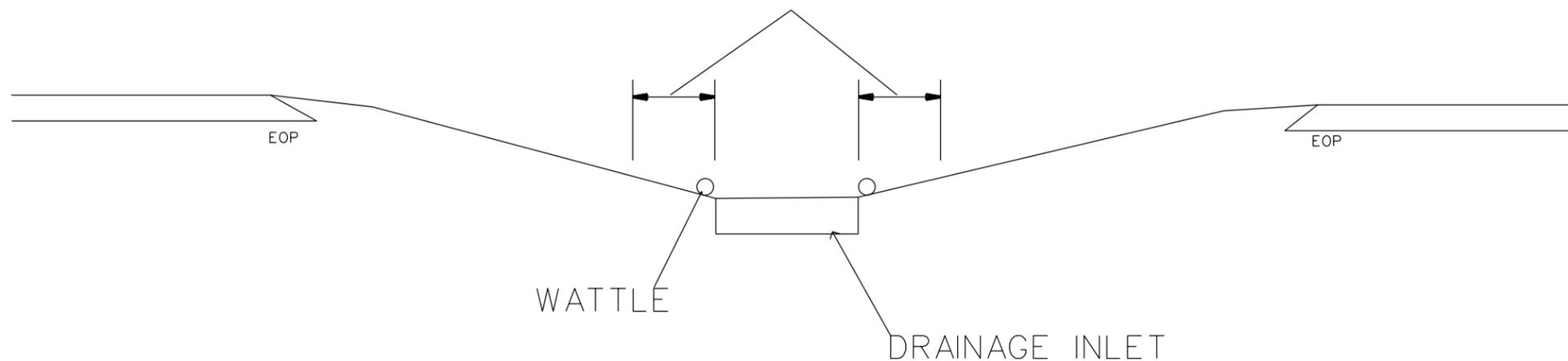
<5' - 10' UNDISTURBED BUFFER FROM JURISDICTIONAL FEATURE ADD BMP



USE BMP'S IF SHOULDERS AND/OR FRONTSLOPES AND/OR DITCHLINE AND/OR BACKSLOPES ARE DISTURBED



<5' - 10' UNDISTURBED BUFFER FROM INLET, ADD WATTLE



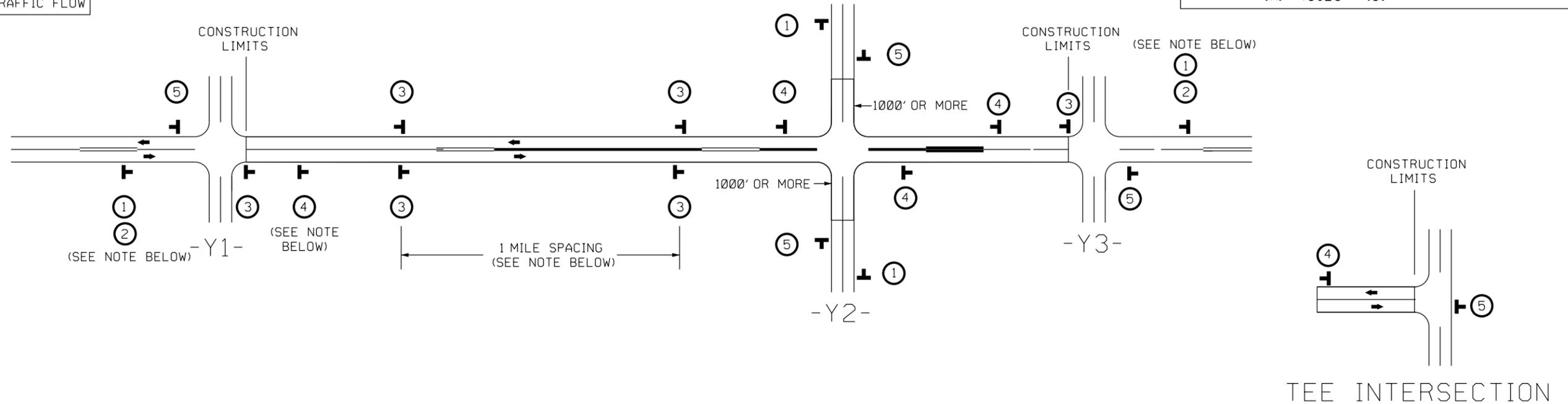
EROSION CONTROL DETAIL

SCALE	NA		REVISIONS
DATE	09/25		
DWG. BY	RBS		
DESIGN BY	RBS		
APPROVED			

SIGNING FOR RESURFACING PROJECTS

STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS
N.C.	2026CPT.10.04.10131 2026CPT.10.04.20131	12	27
F.A. PROJECT NO.			

LEGEND	
	STATIONARY SIGN
	DIRECTION OF TRAFFIC FLOW



MAINLINE (-L-) SIGNING

-Y- LINE SIGNING

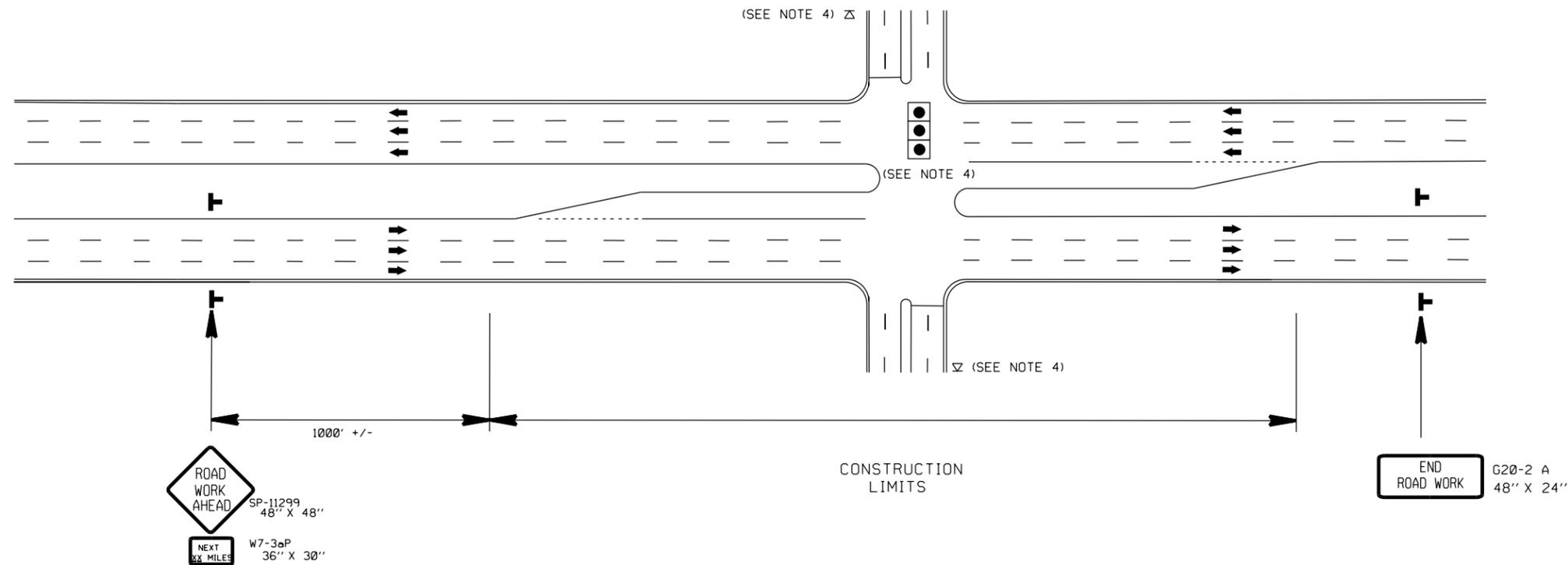
SIGNING NOTES AND PLACEMENT PER DIRECTION	 1 2	PLACE 1000' PRIOR TO BEGINNING OF CONSTRUCTION LIMITS. ONLY USED ON -Y- LINES IF RESURFACING LIMITS EXTEND 1000' ALONG -Y- LINE. *2 SIGN ONLY USED WHEN CONSTRUCTION LIMITS ARE 2 OR MORE MILES IN LENGTH. ROUND UP TO NEXT WHOLE NUMBER. (NO FRACTIONAL OR DECIMAL NUMBERS)	NO REQUIRED STATIONARY SIGNING FOR THE FOLLOWING -Y- LINE CONDITIONS: 1) LESS THAN 1000' OF RESURFACING ALONG -Y- LINE 2) SUBDIVISION ROADS 3) DEAD END ROADS WHEN PAVING/CONSTRUCTION ACTIVITIES PROCEED ACROSS AN UNSIGNED -Y- LINE, PORTABLE ADVANCE WARNING SIGNS SHALL BE USED ALONG THE -Y- LINE AS SHOWN BELOW. REMOVE UPON COMPLETION OF WORK. W20-1 48" X 48" PLACED 500' IN ADVANCE OF FLAGGER. W20-7 A 48" X 48" PLACED 250' IN ADVANCE OF FLAGGER.
	 3	- PLACE INITIALLY AT THE CONSTRUCTION LIMITS AND SPACE 1 MILE APART THEREAFTER. - AT TEE INTERSECTIONS INSTALL INITIALLY 1/2 MILE FROM INTERSECTION AND SPACE 1 MILE APART THEREAFTER.	
	 4	- THESE ARE FOR -Y- LINES THAT ARE "THROUGH" ROADWAYS. - DEAD END AND SUBDIVISION ROADS ARE NOT "THROUGH" ROADWAYS. - INSTALL 500' +/- FROM EACH -Y- LINE APPROACH AS SHOWN ABOVE. - FOR MULTIPLE -Y- LINES THAT ARE SEPARATED BY 0.25 MILES OR LESS, TREAT AS A SINGLE UNIT AND INSTALL WITHIN 500' OF EACH APPROACH. - A MAXIMUM OF 2 SIGN SETS PER MILE. DO NOT INSTALL WHEN -Y- LINES ARE WITHIN 0.5 MILES FROM "END ROAD WORK" SIGN. - FOR TEE INTERSECTIONS, INSTALL WITHIN 500' +/- OF THE INTERSECTION ALONG -L- LINE.	
	 5	PLACE 500' FOLLOWING THE END OF CONSTRUCTION LIMITS OR AS SHOWN WHEN WORK ENDS AT A 3-WAY TEE INTERSECTION.	
	THE ABOVE SIGNS ARE ALL THAT ARE REQUIRED FOR A CONTRACTOR TO BEGIN A RESURFACING CONTRACT. ANY ADDITIONAL SIGNS REQUESTED BY NCDOT DIVISIONS SHALL BE INSTALLED WITHIN 7 BUSINESS DAYS OF THE START OF CONTRACT WORK.		
MAPS LESS THAN 2 MILES	FOR RESURFACING MAPS WITH CONSTRUCTION LIMITS LESS THAN 2 MILES IN LENGTH, NO STATIONARY SIGNS ARE REQUIRED. USE PORTABLE "ROAD UNDER CONSTRUCTION" OR "ROAD WORK AHEAD" SIGNS IN LIEU OF STATIONARY ADVANCE WARNING SIGNS.		

ADVANCE WARNING SIGNS FOR RURAL AND SUBURBAN 2-LANE ROADWAY RESURFACING

LEGEND	
⊥	STATIONARY SIGN
←	DIRECTION OF TRAFFIC FLOW

URBAN / SUBURBAN WORKZONES

STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS
N.C.	2026CPT.10.04.10131 2026CPT.10.04.20131	13	27
F.A. PROJECT NO.			



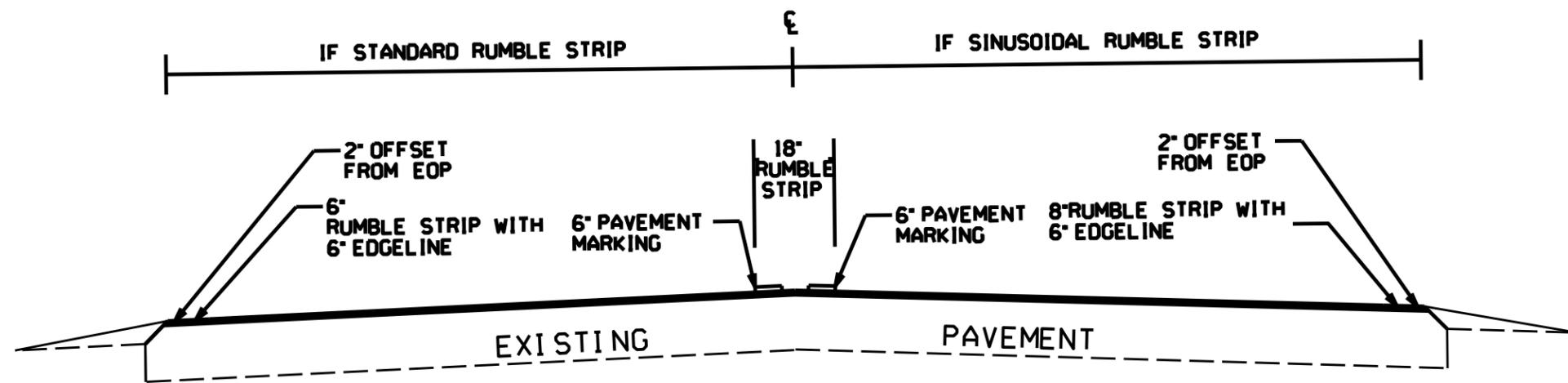
NOTES:

- 1) 48" X 48" SIZED SIGNS (SP-11299) MAY BE REDUCED TO 36" X 36" ON ROADWAYS WITH SPEED LIMITS OF 40 MPH OR LESS
- 2) MOUNT SIGNS THAT ARE LARGER THAN 10 SQUARE FEET IN AREA ON TWO OR MORE WOOD OR U-CHANNEL SUPPORTS. PERFORATED SQUARE TUBING SUPPORT SYSTEMS MAY SUPPORT LARGER AREAS ON A SINGLE SUPPORT. FOLLOW MANUFACTURER'S RECOMMENDATIONS. THESE SYSTEMS SHALL BE NCHRP 350 COMPLIANT AND NCDOT APPROVED.
- 3) ADVANCE WARNING SIGNS NOT REQUIRED ON NON-SIGNALIZED SIDE STREETS.
- 4) MAY USE LAW ENFORCEMENT TO CONTROL TRAFFIC AT SIGNALIZED INTERSECTIONS AS DIRECTED BY THE ENGINEER. PROVIDE PORTABLE "ROAD WORK AHEAD" (W20-1) SIGNS 500' IN ADVANCE ALONG BOTH APPROACHES FROM THE SIDE STREETS WHEN PAVING PROCEEDS THROUGH THE INTERSECTION.
- 5) LATERAL CLEARANCE AT ALL SIGN LOCATIONS SHALL BE 2' AS MEASURED FROM THE EDGE OF PAVEMENT OR THE FACE OF THE CURB. WHEN UNABLE TO OBTAIN THE LATERAL CLEARANCE WITHIN THE MEDIAN AREA USE SHOULDER MOUNTS ONLY.
- 6) SIGN MOUNT LOCATIONS SHALL NOT BLOCK SIDEWALKS OR DRIVEWAYS.
- 7) IF STATIONARY GENERAL WARNING SIGNS ARE USED, THEY WILL BE PAID FOR PER SECTION 104 OF THE NCDOT STANDARD SPECIFICATIONS AS EXTRA WORK.
- 8) IF MILLED AREAS ARE NOT PAVED BACK BY THE END OF THE WORK DAY, PORTABLE SIGNS SHALL BE USED TO WARN DRIVERS OF THE PRESENT CONDITIONS. THESE ARE TO INCLUDE, BUT NOT LIMITED TO, "ROUGH ROAD" (W8-8), "UNEVEN LANES (W8-11), "GROOVED PAVEMENT" (W8-15) w/MOTORCYCLE PLAQUE MOUNTED BELOW. THESE ARE TO BE DOUBLE INDICATED ON MULTI-LANE ROADWAYS WITH SPEED LIMITS 45 MPH AND GREATER WHERE LATERAL CLEARANCE CAN BE OBTAINED WITHIN THE MEDIAN AREAS. THESE PORTABLE SIGNS ARE INCIDENTAL TO THE OTHER ITEMS OR WORK INCLUDED IN THE TEMPORARY TRAFFIC CONTROL (LUMP SUM) PAY ITEM.



RESURFACING
ADVANCE WARNING SIGNS
FOR URBAN / SUBURBAN
FACILITIES

STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS
N.C.	2026CPT.10.04.10131 2026CPT.10.04.20131	14	27
F.A. PROJECT NO.			



$23' \leq \text{PAVEMENT WIDTH} < 24'$

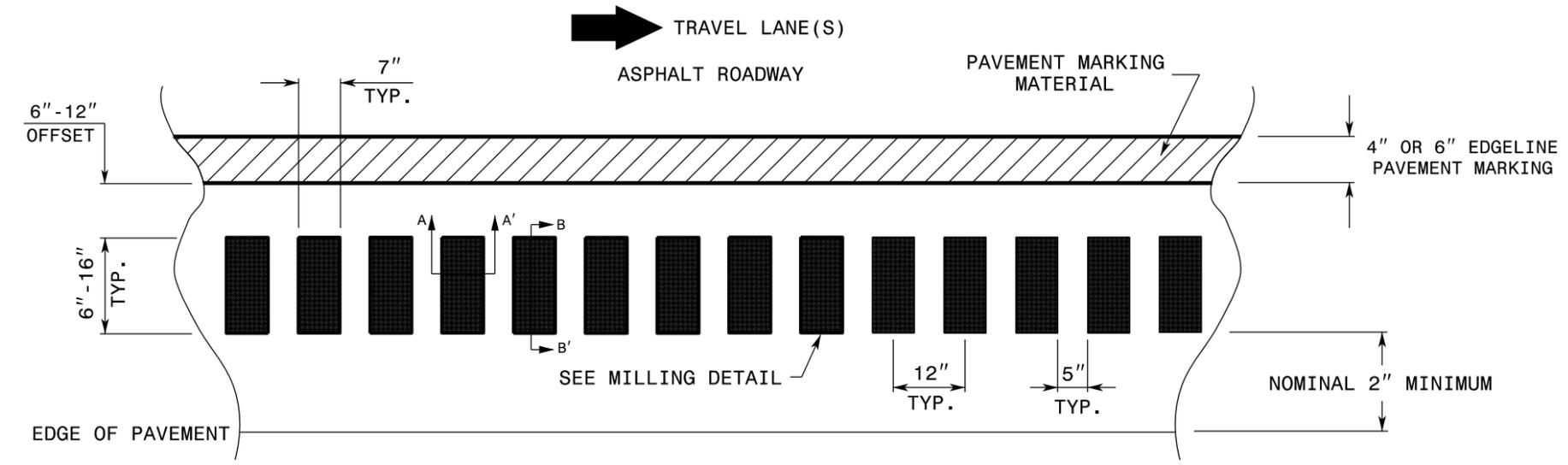
RUMBLE STRIP TYPICAL SECTION NO. 1

MAP 2 - NC 73
MAP 3 - NC 73

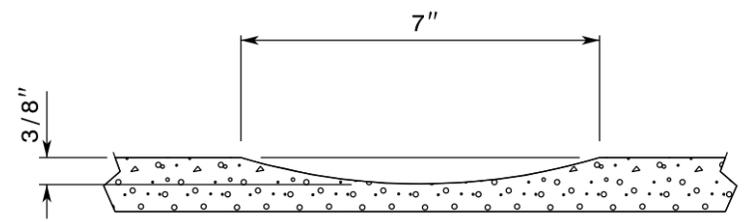
CABARRUS COUNTY
RESURFACING 2026

SCALE	-NA-		REVISIONS
DATE	09/25		
DWG. BY	RBS		
DESIGN BY	RBS		
APPROVED			

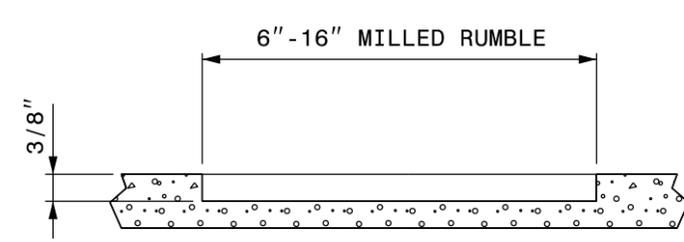
See Table 1 within Rumble Strip Policy for Design Guidance



MILLING DETAIL:



SECTION A-A'



SECTION B-B'

REFERENCE DRAWING ID: Trad.Strip

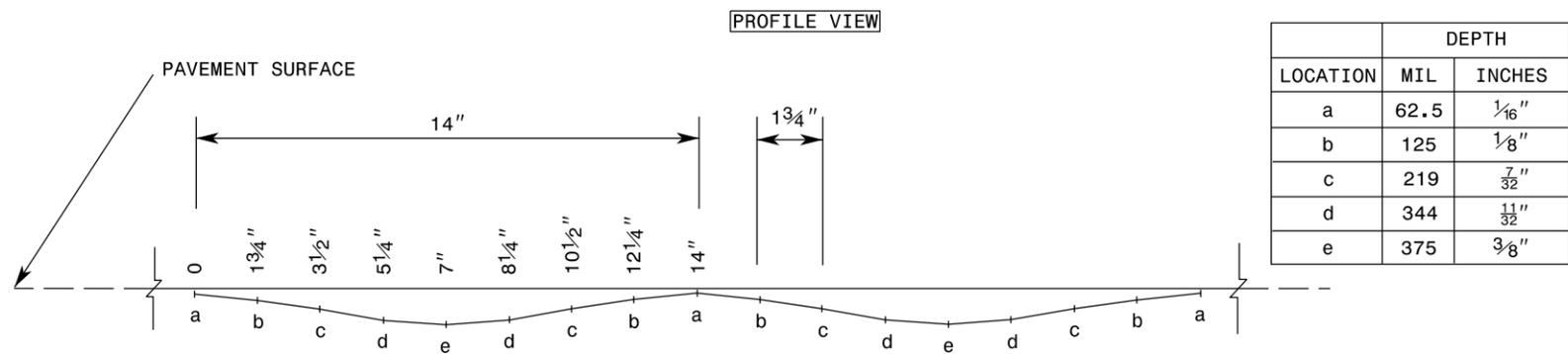
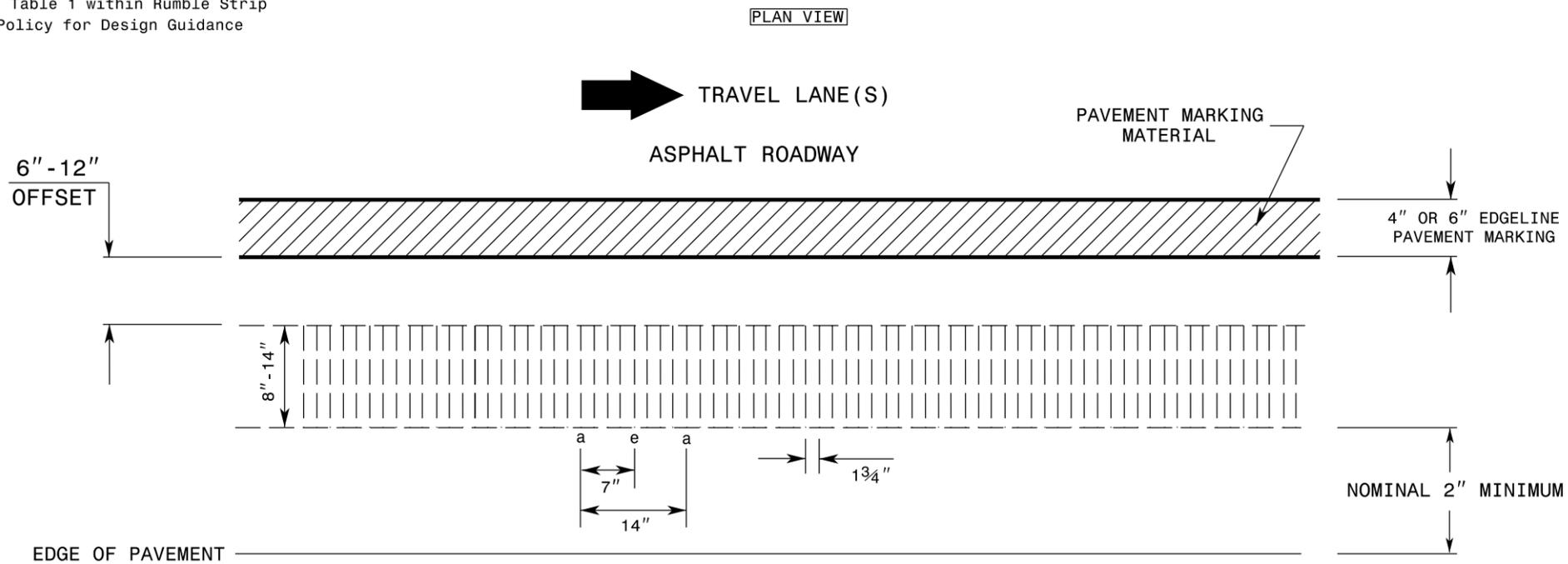
STATE OF NORTH CAROLINA
DEPT. OF TRANSPORTATION
DIVISION OF HIGHWAYS
RALEIGH, N.C.

ROADWAY DETAIL DRAWING FOR
RUMBLE STRIPS / STRIPES
TRADITIONAL SHOULDER RUMBLE STRIP

SHEET 1 OF 9

CONTRACTS STANDARDS AND DEVELOPMENT UNIT	
Office 919-707-8950	FAX 919-250-4119
SEE TITLE BLOCK	
ORIGINAL BY: C. SIMPSON	DATE: 04-24-2025
MODIFIED BY: _____	DATE: _____
CHECKED BY: _____	DATE: _____
FILE SPEC.: _____	

See Table 1 within Rumble Strip Policy for Design Guidance



REFERENCE DRAWING ID: Sin.Strip

NOTES:

- 1) Specification in table taken from MNDOT Research Project Final Report 2016-23: *Sinusoidal Rumble Strip Design Optimization Study By: Terhaar et. al, June 2016*

STATE OF NORTH CAROLINA
DEPT. OF TRANSPORTATION
DIVISION OF HIGHWAYS
RALEIGH, N.C.

ROADWAY DETAIL DRAWING FOR
RUMBLE STRIPS / STRIPES
SINUSOIDAL SHOULDER RUMBLE STRIP

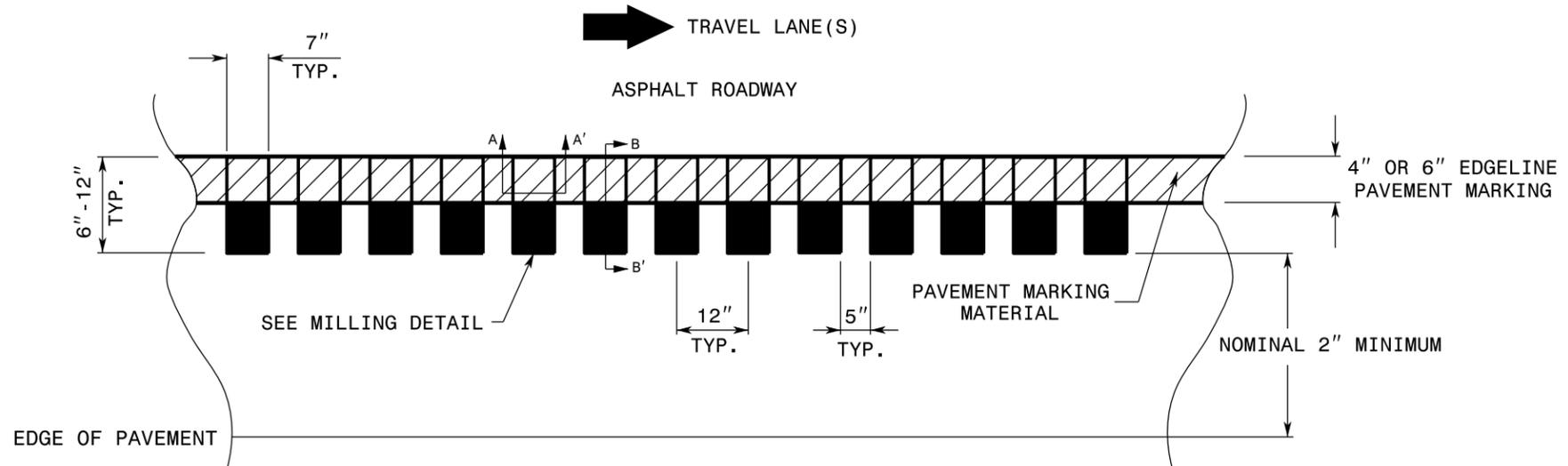
SHEET 2 OF 9

CONTRACTS STANDARDS AND DEVELOPMENT UNIT
Office 919-707-8950 FAX 919-250-4119

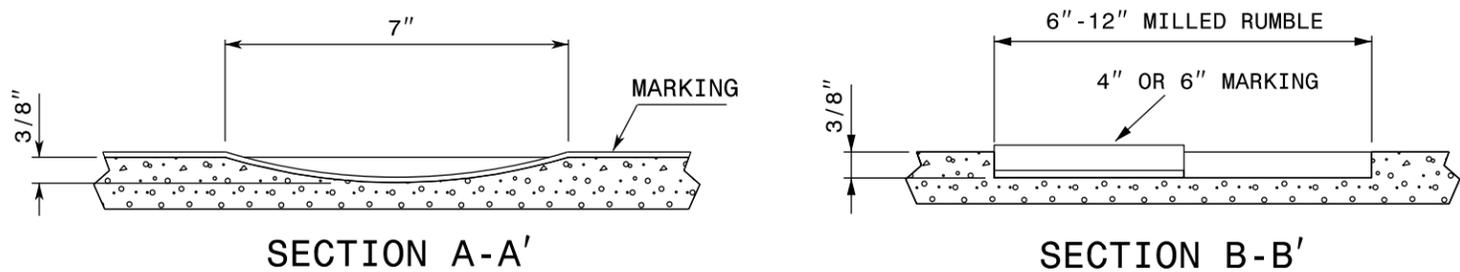
SEE TITLE BLOCK

ORIGINAL BY: C. SIMPSON	DATE: 04-24-2025
MODIFIED BY: _____	DATE: _____
CHECKED BY: _____	DATE: _____
FILE SPEC.: _____	

See Table 1 within Rumble Strip Policy for Design Guidance



MILLING DETAIL:



REFERENCE DRAWING ID: Trad.Stripe

NOTES:

- 1) USING A VACUUM, REMOVE ALL DEBRIS FROM THE MILLINGS JUST PRIOR TO PLACING ANY PAVEMENT MARKINGS.
- 2) ENSURE GLASS BEADS ARE SPREAD UNIFORMLY OVER THE ENTIRE SURFACE OF THE PAVEMENT MARKING MATERIAL.

STATE OF NORTH CAROLINA
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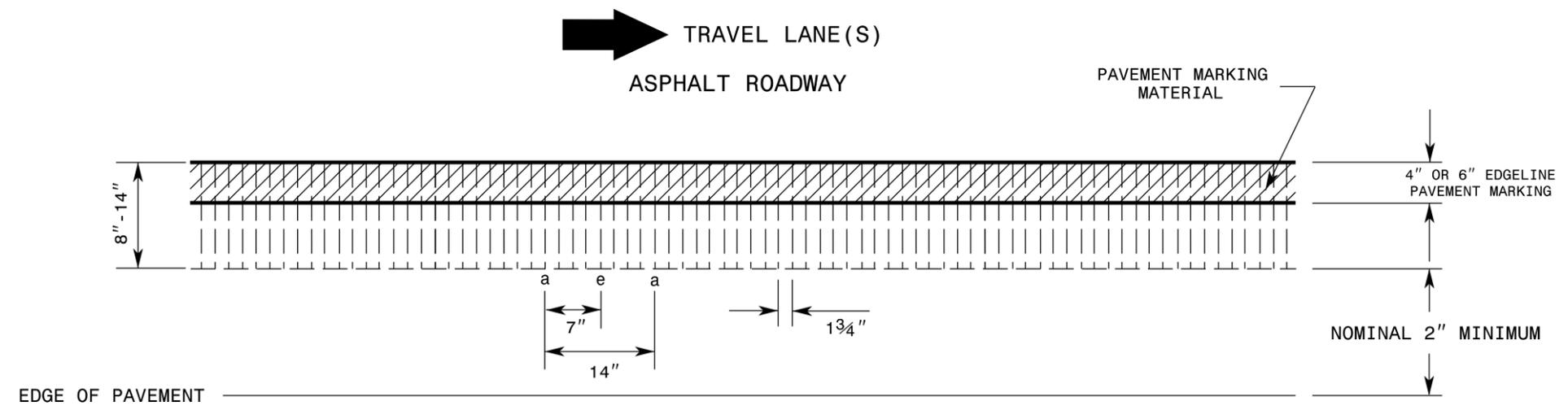
ROADWAY DETAIL DRAWING FOR
RUMBLE STRIPS / STRIPES
TRADITIONAL EDGELINE RUMBLE STRIPE

SHEET 3 OF 9

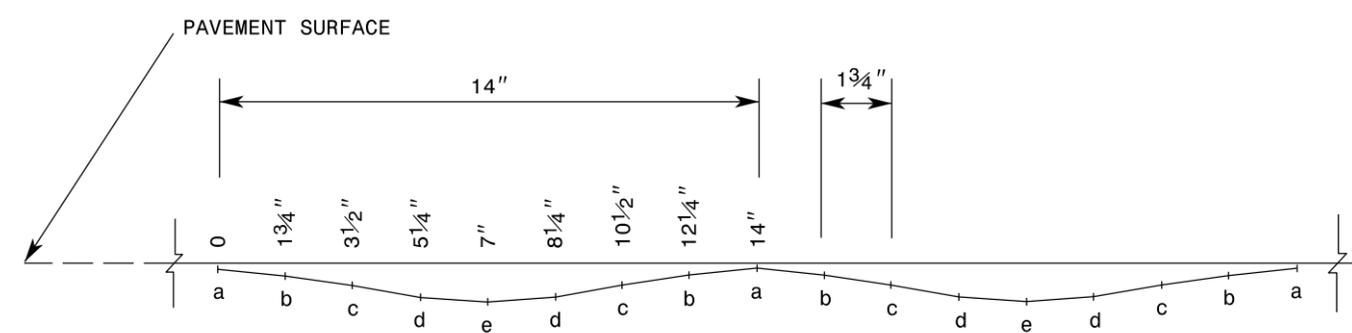
CONTRACTS STANDARDS AND DEVELOPMENT UNIT	
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SEE TITLE BLOCK	
ORIGINAL BY: C. SIMPSON	DATE: 04-24-2025
MODIFIED BY: _____	DATE: _____
CHECKED BY: _____	DATE: _____
FILE SPEC.: _____	

See Table 1 within Rumble Strip Policy for Design Guidance

PLAN VIEW



PROFILE VIEW



LOCATION	DEPTH	
	MIL	INCHES
a	62.5	1/16"
b	125	1/8"
c	219	7/32"
d	344	11/32"
e	375	3/8"

REFERENCE DRAWING ID: Sin.Stripe

NOTES:

- 1) Specification in table taken from MNDOT Research Project Final Report 2016-23: *Sinusoidal Rumble Strip Design Optimization Study By: Terhaar et. al, June 2016*
- 2) USING A VACUUM, REMOVE ALL DEBRIS FROM THE MILLINGS JUST PRIOR TO PLACING ANY PAVEMENT MARKINGS.
- 3) ENSURE GLASS BEADS ARE SPREAD UNIFORMLY OVER THE ENTIRE SURFACE OF THE PAVEMENT MARKING MATERIAL.

STATE OF NORTH CAROLINA
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RALEIGH, N.C.

ROADWAY DETAIL DRAWING FOR
RUMBLE STRIPS / STRIPES
SINUSOIDAL EDGELINE RUMBLE STRIPE

SHEET 4 OF 9

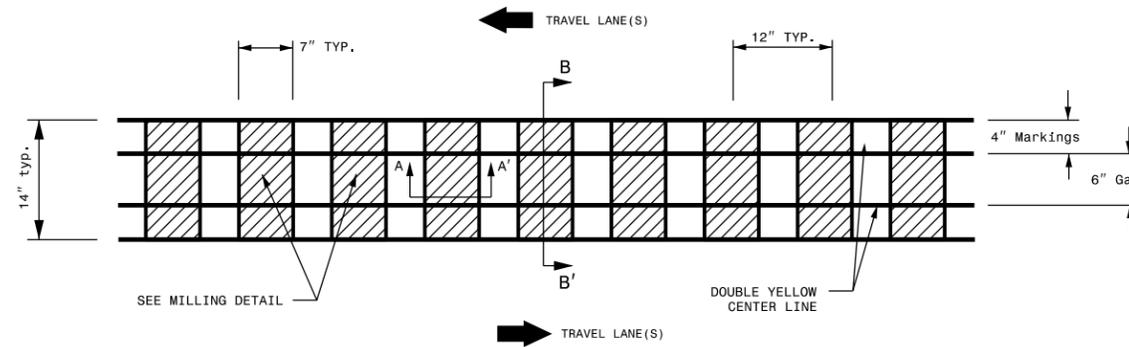
CONTRACTS STANDARDS AND DEVELOPMENT UNIT
Office 919-707-8950 FAX 919-250-4119

SEE TITLE BLOCK

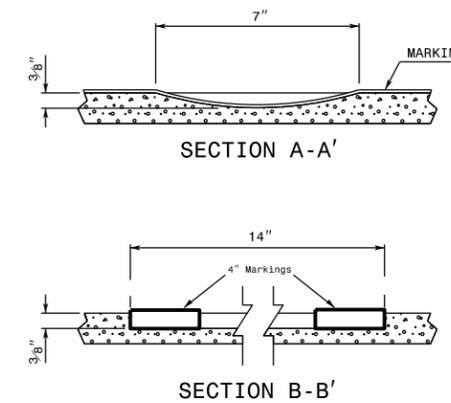
ORIGINAL BY: C. SIMPSON	DATE: 04-24-2025
MODIFIED BY: _____	DATE: _____
CHECKED BY: _____	DATE: _____
FILE SPEC.: _____	

See Table 2 within Rumble Strip Policy for Design Guidance

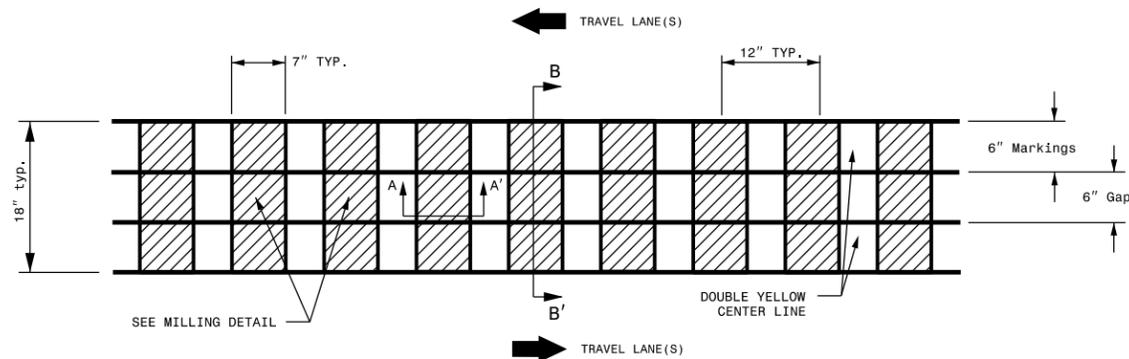
If 4" Markings will be used:



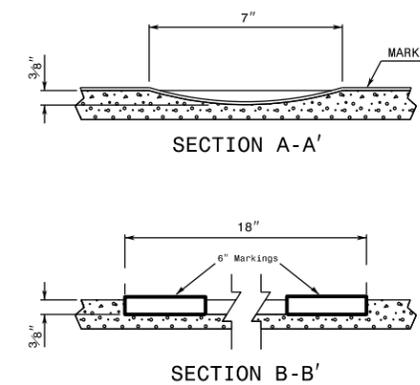
MILLING DETAIL - 4" Markings



If 6" Markings will be used:



MILLING DETAIL - 6" Markings



REFERENCE DRAWING ID: Trad.CL

NOTES:

- 1) USING A VACUUM, REMOVE ALL DEBRIS FROM THE MILLINGS JUST PRIOR TO PLACING ANY PAVEMENT MARKINGS.
- 2) ENSURE GLASS BEADS ARE SPREAD UNIFORMLY OVER THE ENTIRE SURFACE OF THE PAVEMENT MARKING MATERIAL.

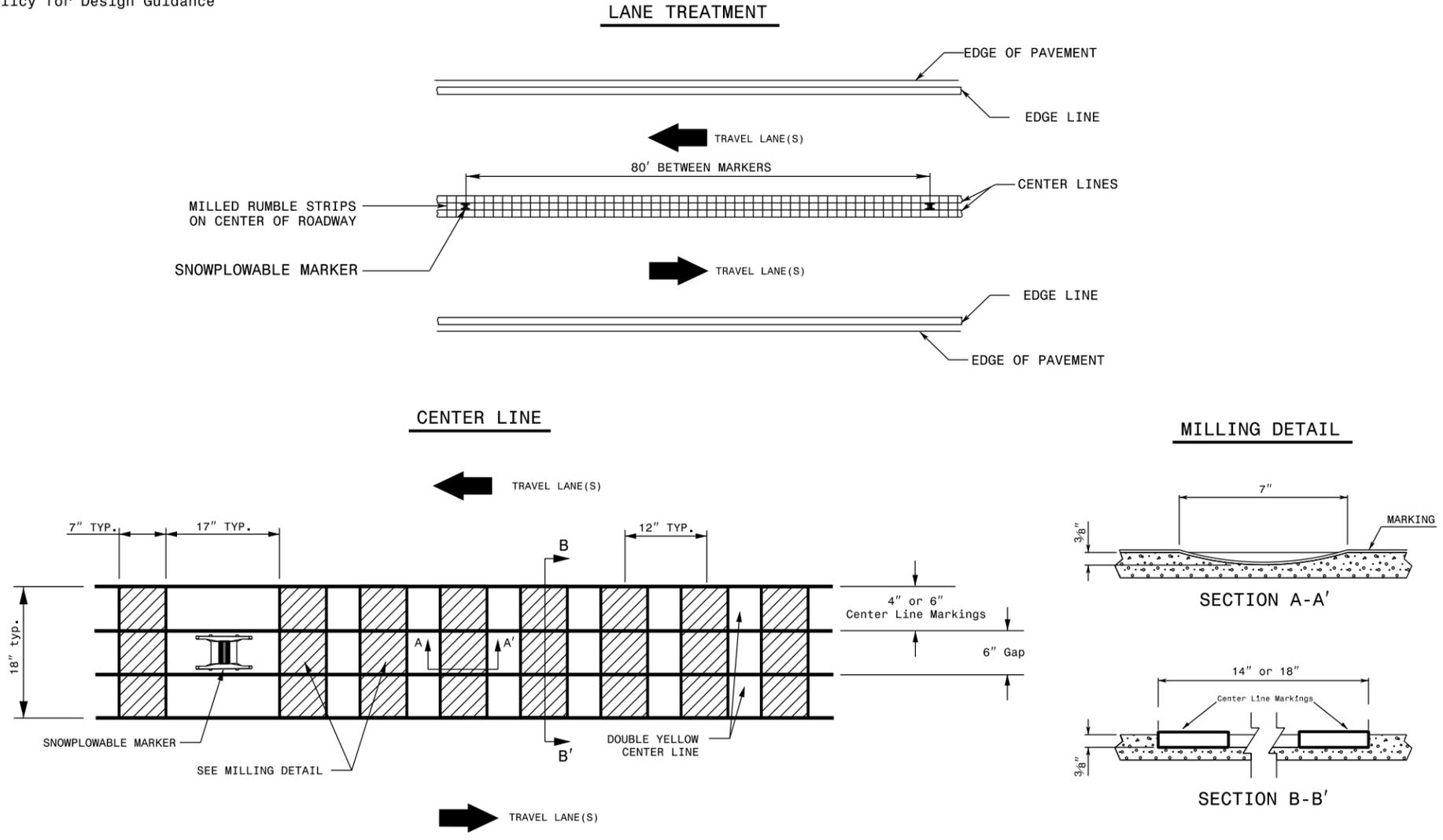
STATE OF NORTH CAROLINA
DEPT. OF TRANSPORTATION
DIVISION OF HIGHWAYS
RALEIGH, N.C.

ROADWAY DETAIL DRAWING FOR
RUMBLE STRIPS / STRIPES
TRADITIONAL CENTERLINE RUMBLE STRIPE

SHEET 5 OF 9

CONTRACTS STANDARDS AND DEVELOPMENT UNIT	
Office 919-707-8950 FAX 919-250-4119	
SEE TITLE BLOCK	
ORIGINAL BY: C. SIMPSON	DATE: 04-24-2025
MODIFIED BY: _____	DATE: _____
CHECKED BY: _____	DATE: _____
FILE SPEC.: _____	

See Table 2 within Rumble Strip Policy for Design Guidance



REFERENCE DRAWING ID: Trad.CL with Snowplowable Markers

NOTES:

- 1) USING A VACUUM, REMOVE ALL DEBRIS FROM THE MILLINGS JUST PRIOR TO PLACING ANY PAVEMENT MARKINGS.
- 2) ENSURE GLASS BEADS ARE SPREAD UNIFORMLY OVER THE ENTIRE SURFACE OF THE PAVEMENT MARKING MATERIAL.
- 3) INSTALL SNOWPLOWABLE MARKERS AT APPROXIMATELY 80' INCREMENTS. DO NOT MILL RUMBLE STRIPS IN SECTION WHERE SNOWPLOWABLE MARKERS ARE INSTALLED.

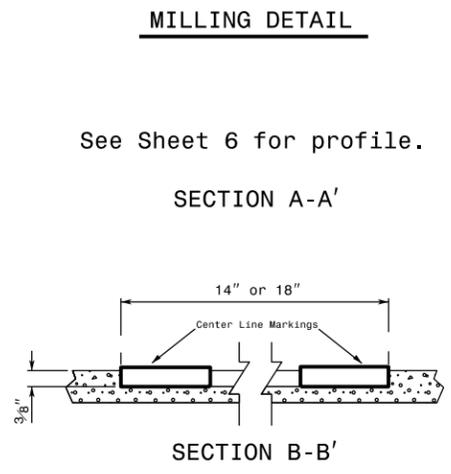
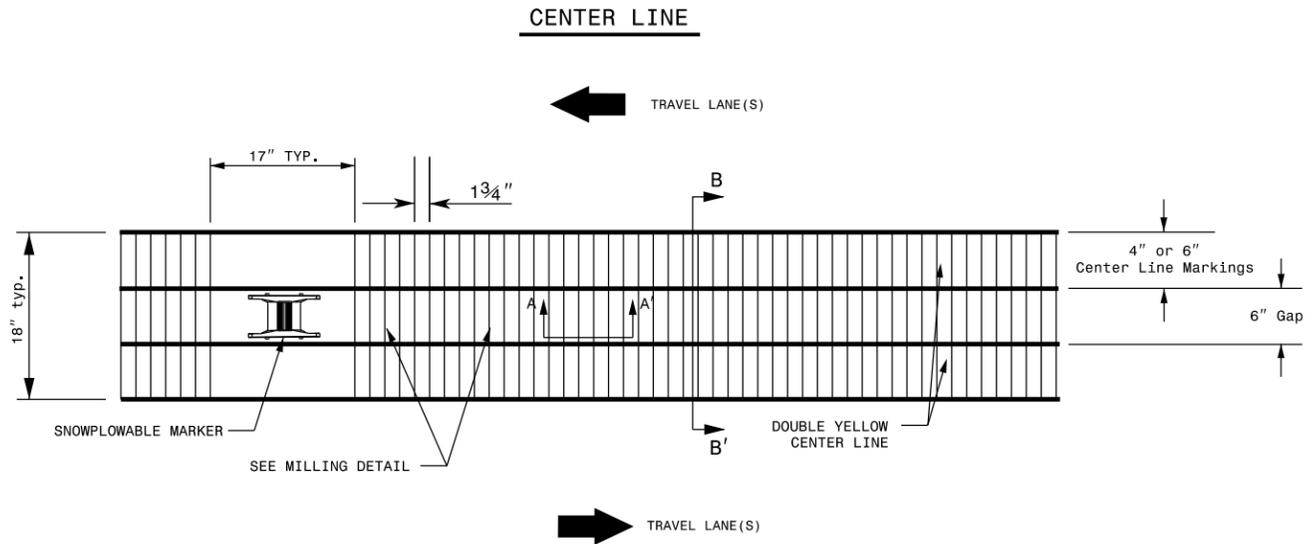
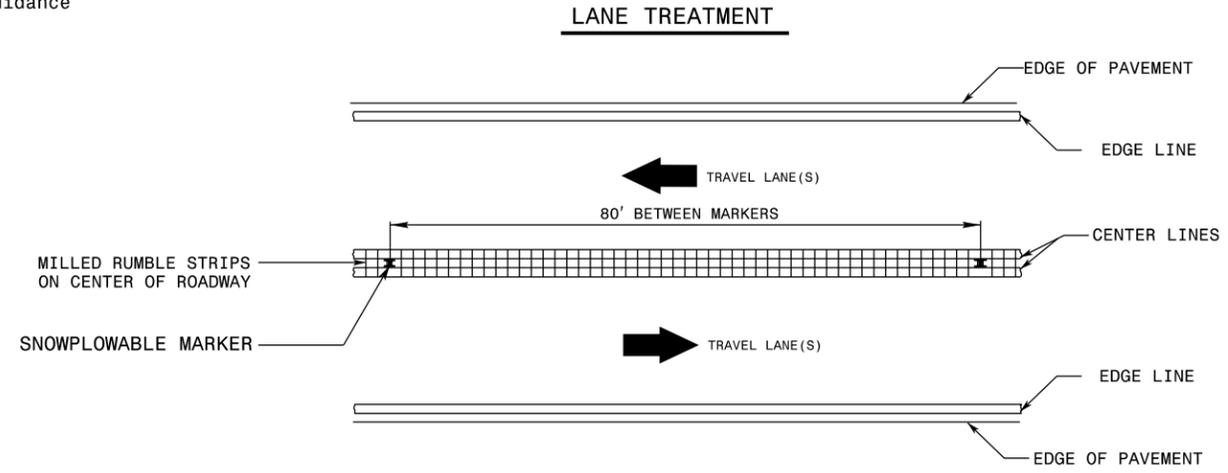
STATE OF NORTH CAROLINA
DEPT. OF TRANSPORTATION
DIVISION OF HIGHWAYS
RALEIGH, N.C.

ROADWAY DETAIL DRAWING FOR
RUMBLE STRIPS / STRIPES
TRADITIONAL CENTERLINE RUMBLE STRIPE WITH SNOWPLOWABLE MARKERS

SHEET 7 OF 9

CONTRACTS STANDARDS AND DEVELOPMENT UNIT	
Office 919-707-8950 FAX 919-250-4119	
SEE TITLE BLOCK	
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MODIFIED BY: _____	DATE: _____
CHECKED BY: _____	DATE: _____
FILE SPEC.: _____	

See Table 2 within Rumble Strip Policy for Design Guidance



REFERENCE DRAWING ID: Sin.CL with Snowplowable Markers

NOTES:

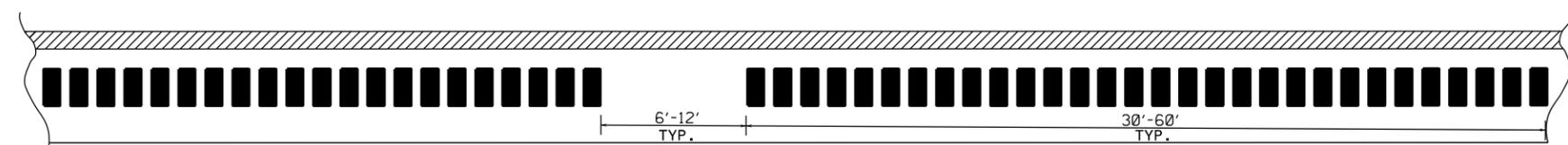
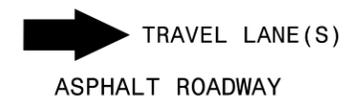
- 1) USING A VACUUM, REMOVE ALL DEBRIS FROM THE MILLINGS JUST PRIOR TO PLACING ANY PAVEMENT MARKINGS.
- 2) ENSURE GLASS BEADS ARE SPREAD UNIFORMLY OVER THE ENTIRE SURFACE OF THE PAVEMENT MARKING MATERIAL.
- 3) INSTALL SNOWPLOWABLE MARKERS AT APPROXIMATELY 80' INCREMENTS. DO NOT MILL RUMBLE STRIPS IN SECTION WHERE SNOWPLOWABLE MARKERS ARE INSTALLED.

STATE OF NORTH CAROLINA
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 DIVISION OF HIGHWAYS
 RALEIGH, N.C.
 ROADWAY DETAIL DRAWING FOR
RUMBLE STRIPS / STRIPES
 SINUSOIDAL CENTERLINE RUMBLE STRIPE WITH SNOWPLOWABLE MARKERS

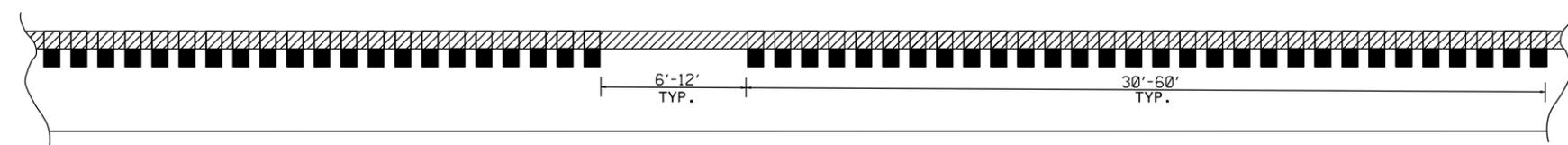
SHEET 8 OF 9

CONTRACTS STANDARDS AND DEVELOPMENT UNIT	
Office 919-707-8950	FAX 919-250-4119
SEE TITLE BLOCK	
ORIGINAL BY: C. SIMPSON	DATE: 04-24-2025
MODIFIED BY:	DATE:
CHECKED BY:	DATE:
FILE SPEC.:	

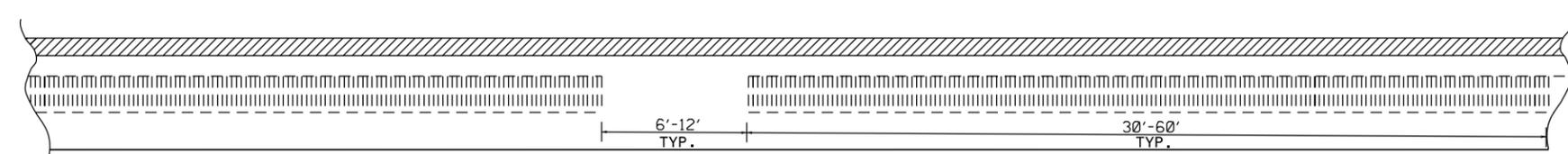
See Page 4 within Rumble Strip Policy for Design Guidance



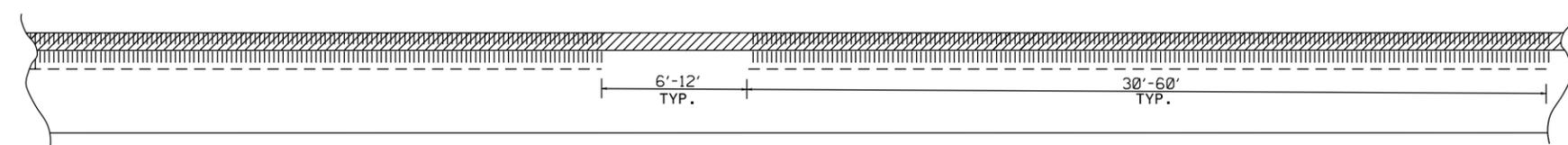
TRADITIONAL SHOULDER RUMBLE STRIP (SEE SHEET 1)



TRADITIONAL EDGELINE RUMBLE STRIPE (SEE SHEET 3)



SINUSOIDAL SHOULDER RUMBLE STRIP (SEE SHEET 2)



SINUSOIDAL EDGELINE RUMBLE STRIPE (SEE SHEET 4)

REFERENCE DRAWING ID: Bicycle Gap

NOTES:

- 1) FOR ROADWAYS WITH NOMINAL PAVED SHOULDER WIDTHS OF AT LEAST 5 FEET, GAPS IN MILLED PATTERNS, VARYING BETWEEN 6 AND 12 FEET, SHALL BE PROVIDED TO ALLOW BICYCLISTS TO MOVE BETWEEN THE THROUGH LANE AND THE RIGHT SHOULDER. THE PATTERN SHOULD BE A MINIMUM OF A 5:1 RUMBLE-TO-GAP RATIO.
- 2) FOR ROADWAYS WITH NOMINAL PAVED SHOULDER WIDTHS OF 1.5 FEET UP TO 5 FEET FOR A LENGTH OF 200' OR GREATER, A BICYCLE GAP SHOULD BE CONSIDERED.
- 3) FOR ROADWAYS WITH NOMINAL PAVED SHOULDER WIDTHS OF LESS THAN 1.5 FEET, NO BICYCLE GAP IS NEEDED.

STATE OF NORTH CAROLINA
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ROADWAY DETAIL DRAWING FOR
RUMBLE STRIPS / STRIPES
 BICYCLE GAP FOR SHOULDER RUMBLE STRIP / EDGELINE RUMBLE STRIPE

SHEET 9 OF 9

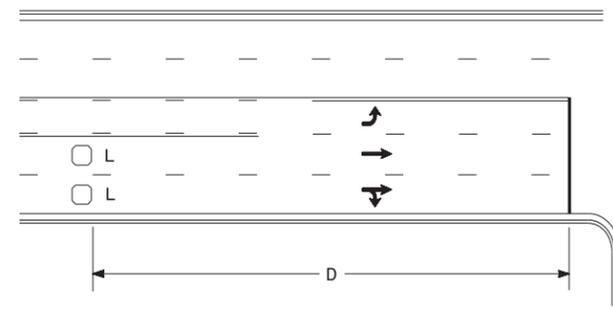
CONTRACTS STANDARDS AND DEVELOPMENT UNIT	
Office 919-707-8950 FAX 919-250-4119	
SEE TITLE BLOCK	
ORIGINAL BY: C. SIMPSON	DATE: 04-24-2025
MODIFIED BY: _____	DATE: _____
CHECKED BY: _____	DATE: _____
FILE SPEC.: _____	

STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS
N.C.	2026CPT.10.04.10131 2026CPT.10.04.20131	24	27
F.A. PROJECT NO.			

ENGINEER'S NOTES

- PATCHING ON MAP 1 WILL BE DONE IN ADVANCE BY NCDOT.
 - ON MAP 4, SKIP NC 49 FROM STA. 21+05 TO 21+48.
- LEVELING TO BE PLACED AS DIRECTED BY THE ENGINEER.

High Speed Detection (≥40 mph)

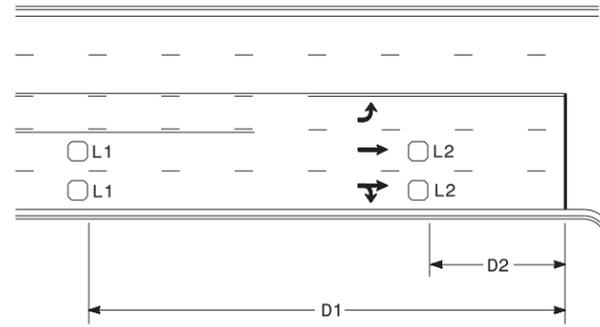


Speed Limit mph	D ft
40	250
45	300
50	355
55	420

L = 6ft X 6ft
Wired separately

Volume Density Operation

OR

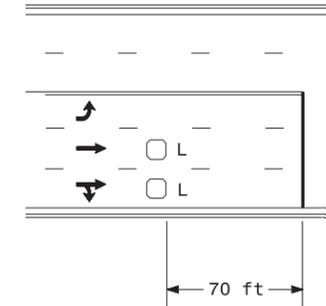


Speed Limit mph	D1 ft	D2 ft
40	250	80
45	300	90
50	355	100
55	420	110

L1 = 6ft X 6ft
Wired in series
L2 = 6ft X 6ft
Wired in series

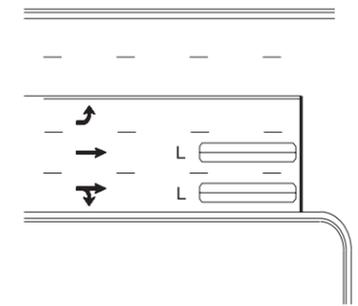
"Stretch" Operation

Low Speed Detection (≤35 mph)



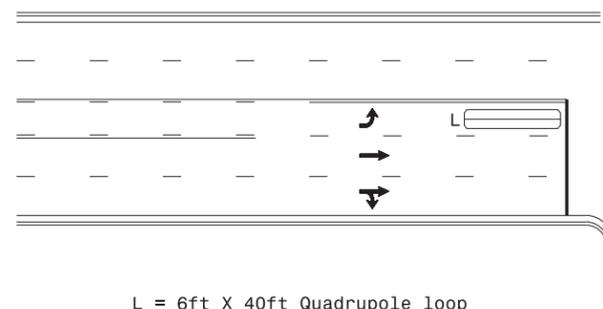
L = 6ft X 6ft
Wired in series

OR



L = 6ft X 40ft
Quadrupole loop, wired separately

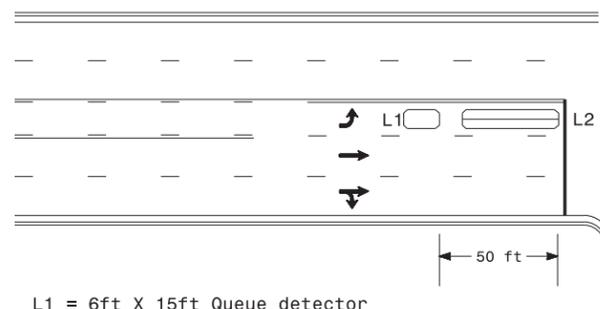
Left Turn Lane Detection



L = 6ft X 40ft Quadrupole loop

Presence Loop Detection

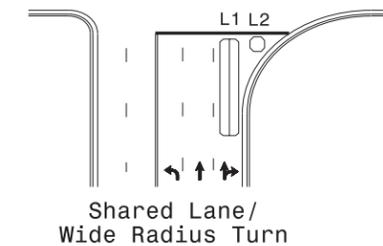
OR



L1 = 6ft X 15ft Queue detector
L2 = 6ft X 40ft Quadrupole loop

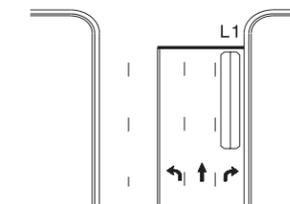
Queue Loop Detection

Right Turn Lane Detection

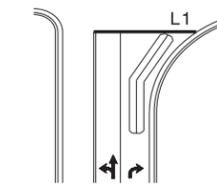


L1 = 6ft X 40ft Quadrupole loop
L2 = 6ft X 6ft [Minimum] Presence loop
Wired separately

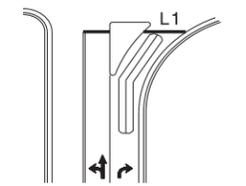
Shared Lane/
Wide Radius Turn



Standard Turn

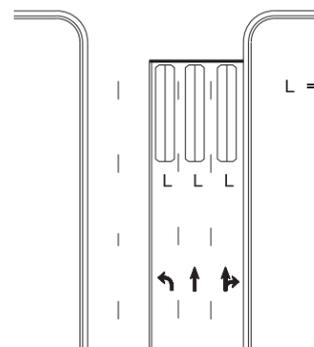


Wide Radius Turn



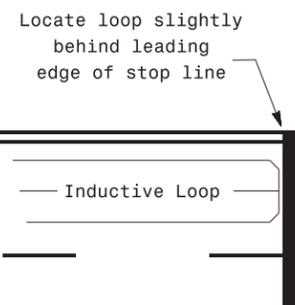
Channelized Turn

Side Street Detection



L = 6ft X 40ft
Quadrupole loop
Wired to separate
detectors/channels

Presence Loop Placement at Stop Lines



Note:
Loop may be located in advance of stop line under any of the following conditions:
1) stop line is greater than 15' from edge of intersecting roadway
2) loop detects a permissive or protected/permissive left turn
3) for an exclusive right turn lane

Recommended Number of Turns

Single 6' X 6' loop
(when wired separately):

Length of Lead-in ft	Number of Turns
< 250	3
250-375	4
375-525	5
> 525	6

Quadrupole loops: Use 2-4-2 turns

6' X 15' Loops:
Lead-in < 150', use 2 turns
Lead-in > 150', use 3 turns

750 N. Greenfield Pkwy, Garner, NC 27529

Prepared in the Offices of:

TRANSPORTATION MOBILITY AND SAFETY DIVISION
STATE OF NORTH CAROLINA
STATE OF TRANSPORTATION
Signal Design Section

SEAL
NORTH CAROLINA
PROFESSIONAL ENGINEER
029904
JASON P. GALLOWAY

Typical Signal Loop Locations	
PLAN DATE: September 2020	REVIEWED BY: JPG
PREPARED BY: PLA	REVIEWED BY:
SCALE: N/A	REVISIONS: INIT. DATE

9/8/2020
DATE

SIG. INVENTORY NO.

09-SEP-2020 11:54 S:\MITS\SIGNAL DESIGN\Section\Eastern Region\Loop Typo\cal\loop\typo\cal\2015.dgn JGallaway

PROJECT NO.	SHEET NO.	TOTAL NO.
2026CPT.10.04.10131, 2026CPT.10.04.20131	26	27

SUMMARY OF QUANTITIES

PROJECT NO	COUNTY	MAP NO	ROUTE	DESCRIPTION	TYP NO	LANES	LANE TYPE	LENGTH	WIDTH	BEGIN MP	END MP	1220000000-E	1245000000-E	1260000000-E	1297000000-E	1308000000-E	1330000000-E	1519000000-E	1520000000-E	1523000000-E	1575000000-E	1704000000-E	1775000000-E	1838000000-E	1881000000-E	2830000000-N	2845000000-N	5255000000-N	7444000000-E						
												INCIDENTAL STONE BASE	SHOULDER RECONSTRUCTION	AGGREGATE SHOULDER BORROW	2" MILLING	0" TO 1 1/2" MILLING	INCIDENTAL MILLING	SURFACE COURSE, S9.5B	LEVELING COURSE, S9.5B	SURFACE COURSE, S9.5C	ASPHALT BINDER FOR PLANT MIX	PATCHING EXISTING PAVEMENT	ASPHALT SURFACE TREATMENT, MATCOAT, #78 STONE	EMULSION FOR ASPHALT SURFACE TREATMENT	GENERIC PAVING ITEM (LF) SINUSOIDAL MILLED RUMBLE STRIPS (18")	GENERIC PAVING ITEM (LF) SINUSOIDAL MILLED RUMBLE STRIPS (8")	ADJ. OF MANHOLES	ADJ. OF METER OR VALVE BOX	PORTABLE LIGHTING	INDUCTIVE LOOP					
								MI	FT			TONS	SMI	TON	SY	SY	SY	TONS	TONS	TONS	TONS	TONS	SY	GAL	LF	LF	EA	EA	LS	LF					
2026CPT.10.04.10131	Cabarrus	1	NC-24/27 E	FROM MECKLENBURG COUNTY LINE TO JOINT BEFORE SR 1134 PIONEER MILL ROAD	1,2	2		0.5	28	0	0.5					7,771		2,724		1,300	77									1.00					
TOTAL FOR MAP NO. 1								0.5								7,771		2,724		1,300	77									1.00					
2026CPT.10.04.10131	Cabarrus	2	NC-73	FROM 800 FEET NORTH OF S. SKYLAND DRIVE TO JOINT BEFORE THE BRIDGE	3,4,5	2	2WU	1.77	26	19.38	21.15					30,216		2,026		2,960	192	354	31,950	7,990	1,520	3,040	2	2		552					
TOTAL FOR MAP NO. 2								1.77								30,216		2,026		2,960	192	354	31,950	7,990	1,520	3,040	2	2		552					
2026CPT.10.04.10131	Cabarrus	3	NC-73	JOINT AFTER SR 2604 DUTCH ROAD TO THE STANLY COUNTY LINE	6,8	2	2WU	2.47	24	21.53	24		180	4.98	412		142	993		3,300	249	1,125			13,047	26,094									
TOTAL FOR MAP NO. 3								2.47						180	4.98	412		142	993		3,300	249	1,125			13,047	26,094								
TOTAL FOR PROJ NO. 2026CPT.10.04.10131								4.74						180	4.98	412		142	5,743		7,560	518	1,479		31,950	7,990	14,567	29,134	2	2	1.00	552			
2026CPT.10.04.20131	Cabarrus	4	SR-1006 / N MAIN ST	FROM 2421 NORTH DRIVE TO NC 73	5	2	2WU	1.01	35	6.57	7.59					22,114		844		2,165	140	255	22,958	5,740			4	8		1,200					
TOTAL FOR MAP NO. 4								1.01								22,114		844		2,165	140	255	22,958	5,740			4	8		1,200					
2026CPT.10.04.20131	Cabarrus	5	SR-1006 / S MAIN ST	FROM NC 73 TO LEE STREET	5	2	2WU	0.24	35	7.59	7.83					4,291		558		450	29	60	4,850	1,215			1	2		240					
TOTAL FOR MAP NO. 5								0.24								4,291		558		450	29	60	4,850	1,215			1	2		240					
2026CPT.10.04.20131	Cabarrus	6	SR-2400 / IRISH POTATO RD	FROM JOINT NEAR RAB TO SR 2400 BARRIER ROAD	7,9	2	2WU	2.54	24	0.1	2.64		225	5.08	415		264	1,246	3,510	100		278	900												
TOTAL FOR MAP NO. 6								2.54						225	5.08	415		264	1,246	3,510	100		278	900											
2026CPT.10.04.20131	Cabarrus	7	SR-2402 / SAPP RD	FROM SR 2400 IRISH POTATO ROAD TO SR 1002 OLD SALISBURY-CONCORD ROAD	7,9	2	2WU	2.91	22.5	1.73	4.64		225	5.82	483		370	1,303	3,600	1,019		335	728												
TOTAL FOR MAP NO. 7								2.91						225	5.82	483		370	1,303	3,600	1,019		335	728											
TOTAL FOR PROJ NO. 2026CPT.10.04.20131								6.7						450	10.90	898		634	3,951	7,110	1,119	2,615	782	1,943		27,808	6,955			5	10		1,440		
GRAND TOTAL								11.44						630	15.88	1,310		64,392	776	9,694		7,110	1,119	10,175	1,300	3,422		59,758	14,945	14,567	29,134	7	12	1.00	1,992

PROJECT NO.	SHEET NO.	TOTAL NO.
2026CPT.10.04.10131, 2026CPT.10.04.20131	27	27

THERMOPLASTIC AND PAINT QUANTITIES

PROJECT NO	COUNTY	MAP NO	ROUTE	DESCRIPTION	TYP NO	LANES	LANE TYPE	LENGTH	WIDTH	BEGIN MP	END MP	4413000000-E	4457000000-N	4510000000-N	4685000000-E		4688000000-E		4695000000-E	4704000000-E	4709000000-E	4720000000-E				4725000000-E				4810000000-E		4820000000-E	4835000000-E	4900000000-N		4905100000-N
												WORK ZONE ADVANCE/GENERAL WARNING SIGNING	TEMPORARY TRAFFIC CONTROL	LAW ENFORCEMENT	4" X 90 M WHITE THERMO	4" X 90 M YELLOW THERMO	6" X 90 M YELLOW THERMO	6" X 90 M WHITE THERMO	8" X 90 M WHITE THERMO	THERMOPLASTIC PAVEMENT MARKING LINES (16", 90 MILS) WHITE	THERMOPLASTIC PAVEMENT MARKING LINES (24", 90 MILS)	THERMO MSG STOP 90 M	THERMO MSG AHEAD 90 M	THERMO LT ARROW 90 M	THERMO RT ARROW 90 M	THERMO STR & RT ARROW 90 M	THERMO LT STR RT ARROW 90 M	4" YELLOW PAINT	4" WHITE PAINT	8" WHITE PAINT	24" WHITE PAINT	YELLOW & YELLOW MARKERS	CRYSTAL & RED MARKERS	NON-CAST IRON SNOWPLOWABLE PAVEMENT MARKER		
MI	FT	SF	LS	HR	LF	LF	LF	LF	LF	EA	EA	EA	EA	EA	EA	EA	EA	EA	EA	EA	EA	EA	EA	EA	EA	EA	EA	EA	EA	EA	EA	EA	EA	EA		
2026CPT.10.04.10131	Cabarrus	1	NC-24/27 E	FROM MECKLENBURG COUNTY LINE TO JOINT BEFORE SR 1134 PIONEER MILL ROAD	1,2	2		0.5	28	0	0.5	126.0	0.05		3,778	3,321				24			6	2				3,321	3,778							137
		TOTAL FOR MAP NO. 1					0.5					126.0	0.05		3,778	3,321				24			6	2			3,321	3,778							137	
2026CPT.10.04.10131	Cabarrus	2	NC-73	FROM 800 FEET NORTH OF S. SKYLAND DRIVE TO JOINT BEFORE THE BRIDGE	3,4,5	2	ZWU	1.77	26	19.38	21.15	198.0	0.15	40	5,510	14,156	3,040	3,040			42					2		17,196	8,550		42					120
		TOTAL FOR MAP NO. 2					1.77					198.0	0.15	40	5,510	14,156	3,040	3,040			42				2		17,196	8,550		42					120	
2026CPT.10.04.10131	Cabarrus	3	NC-73	JOINT AFTER SR 2604 DUTCH ROAD TO THE STANLY COUNTY LINE	6,8	2	ZWU	2.47	24	21.53	24		0.21					22,130	25,860																	164
		TOTAL FOR MAP NO. 3					2.47						0.21					22,130	25,860																	164
		TOTAL FOR PROJ NO. 2026CPT.10.04.10131					4.74					324.0	0.41	40	9,288	17,477	25,170	28,900			66		8	2		2	20,517	12,328		42					421	
															26,765	54,070									12			32,845								
2026CPT.10.04.20131	Cabarrus	4	SR-1006 / N MAIN ST	FROM 2421 NORTH DRIVE TO NC 73	5	2	ZWU	1.01	35	6.57	7.59	126.0	0.09	80	10,804	10,107			145		648			4			1	10,107	10,804	145	648		64	23		
		TOTAL FOR MAP NO. 4					1.01					126.0	0.09	80	10,804	10,107			145		648			4			1	10,107	10,804	145	648		64	23		
2026CPT.10.04.20131	Cabarrus	5	SR-1006 / S MAIN ST	FROM NC 73 TO LEE STREET	5	2	ZWU	0.24	35	7.59	7.83	26.0	0.02		1,716	2,400				80	12					1	2,400	1,716		12		15				
		TOTAL FOR MAP NO. 5					0.24					26	0.02		1,716	2,400				80	12					1	2,400	1,716		12		15				
2026CPT.10.04.20131	Cabarrus	6	SR-2400 / IRISH POTATO RD	FROM JOINT NEAR RAB TO SR 2400 BARRIER ROAD	7,9	2	ZWU	2.54	24	0.1	2.64		0.23		26,507	25,307				32	20	10													168	
		TOTAL FOR MAP NO. 6					2.54						0.23		26,507	25,307				32	20	10												168		
2026CPT.10.04.20131	Cabarrus	7	SR-2402 / SAPP RD	FROM SR 2400 IRISH POTATO ROAD TO SR 1002 OLD SALISBURY-CONCORD ROAD	7,9	2	ZWU	2.91	22.5	1.73	4.64		0.25							18	8	5					26,263	30,550								
		TOTAL FOR MAP NO. 7					2.91						0.250							18	8	5					26,263	30,550								
		TOTAL FOR PROJ NO. 2026CPT.10.04.20131					6.7					152.0	0.590	80	39,027	37,814			145	80	710	28	15	4		2	38,770	43,070		145	660	247	23			
															76,841				43		6						81,840						270			
		GRAND TOTAL					11.44					476.0	1.000	120	48,315	55,291	25,170	28,900	145	80	776	28	15	12	2	2	2	2	59,287	55,398	145	702	247	23	421	
															103,606		54,070				43			18			114,685					270				